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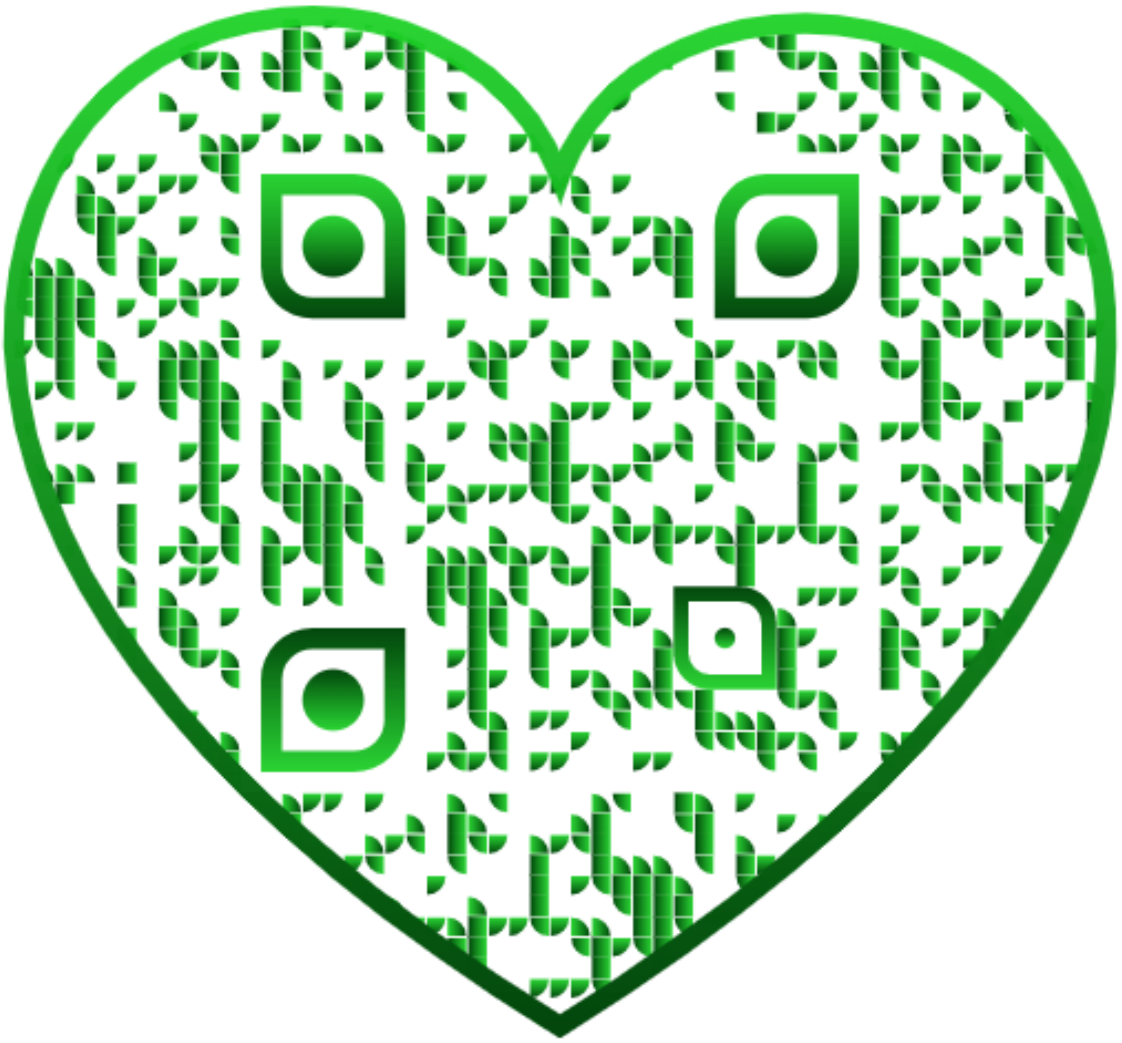
KEITH EMERSON

The Legend Answers YOUR Questions!

5 Ways to Play Like Keith Emerson

Ways to Play Like Rick Wakeman



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Keith Emerson (left) and fellow keyboard hero Rick Wakeman outside London's Royal Albert Hall. In this issue, Keith answers questions you sent us via Facebook and our online forum. Next month, it's Rick's turn!

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***Keyboard* Archives**

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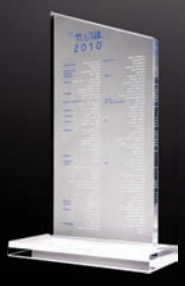

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ROBERT G. PENNEYS

From the Editor

T. Lavitz, 1956–2010

Just as this issue went to press, I got the news that Dixie Dregs keyboardist T. Lavitz died on October 7 at the entirely too young age of 54. Along with the titan on this month's cover, T. was one of a tiny handful of artists whose playing made a pre-teen me say, "I wanna do *that*!" Never mind the attention guitarists got, pyrotechnic chops on a stack of synths taller than oneself was where it was *at*. I know he inspired many of you in the exact same way. Recently, T. and I had traded emails about him penning some lessons for *Keyboard* based on his DVD *The Key*. I'd resolved to make it happen as soon as more pressing projects were completed. I'm sad for the missed opportunity, sadder still that T. is no longer with us making music. The lesson I learned? Beware of "as soon as," no matter how busy you are. T.'s music and mojo will be sorely missed. For a retrospective on his gear and career, turn to page 74.

Stephen Fortner

DEPT. OF CORRECTIONS

BOB MOOG FOUNDATION ARCHIVE

October's story on the 40th anniversary of the Minimoog brought back lots of memories. The photograph of Bob Moog and Herb Deutsch on page 7 [left] is dated 1963, but Bob didn't produce the modular synth in the photo until 1967. The photo was taken at Hofstra University, where the Moog lab was set up in 1969. Enclosed is a photo of the lab in 1970 [right]. Don Muro, via email

Thanks for the catch! That's you in the 1970 photo, isn't it, Don? Readers, Don Muro is a renowned composer, synthesist, and educator who wrote for Keyboard *in its early days. Visit him online at donmuro.com.* Stephen Fortner

The Poll

Be counted!
New polls go live the first and third Tuesdays of each month at keyboardmag.com.

How do you get your Leslie or rotary sound?

My clonewheel organ's built-in simulation 32%
Real vintage Leslie 25%
Standalone electronic simulator (*e.g.* Ventilator) **15%**
Onboard effects in my workstation keyboard 12%
Other physical rotary (*e.g.* Motion Sound) **10%**
New Leslie by Hammond-Suzuki 2%
Organ samples recorded through a Leslie 2%
Hardware multi-effects processor 2%

DIG MY RIG!

Here's the touring rig I use with the Yes tribute band Going for the One (myspace.com/goingfortheoneband).

Kurzweil SP88: I love how compact and lightweight this is for an 88-key controller. The soft weighted action lets me play for hours without fatigue, and the piano sounds great! I use it for all piano parts.

Roland JV-80: I have the Vintage Keys expansion card installed. I use it for stuff that isn't a synth, piano, Hammond, or Mellotron, like the harpsichord in "Siberian Khatru" and the pipe organ on "Close to the Edge."

Fatar 610: This ultra-lightweight controller sits nicely atop my Hammond. I have it there to play synth lines in conjunction with Hammond parts. "Heart of the Sunrise" is an excellent example. It's MIDI'ed to my . . .

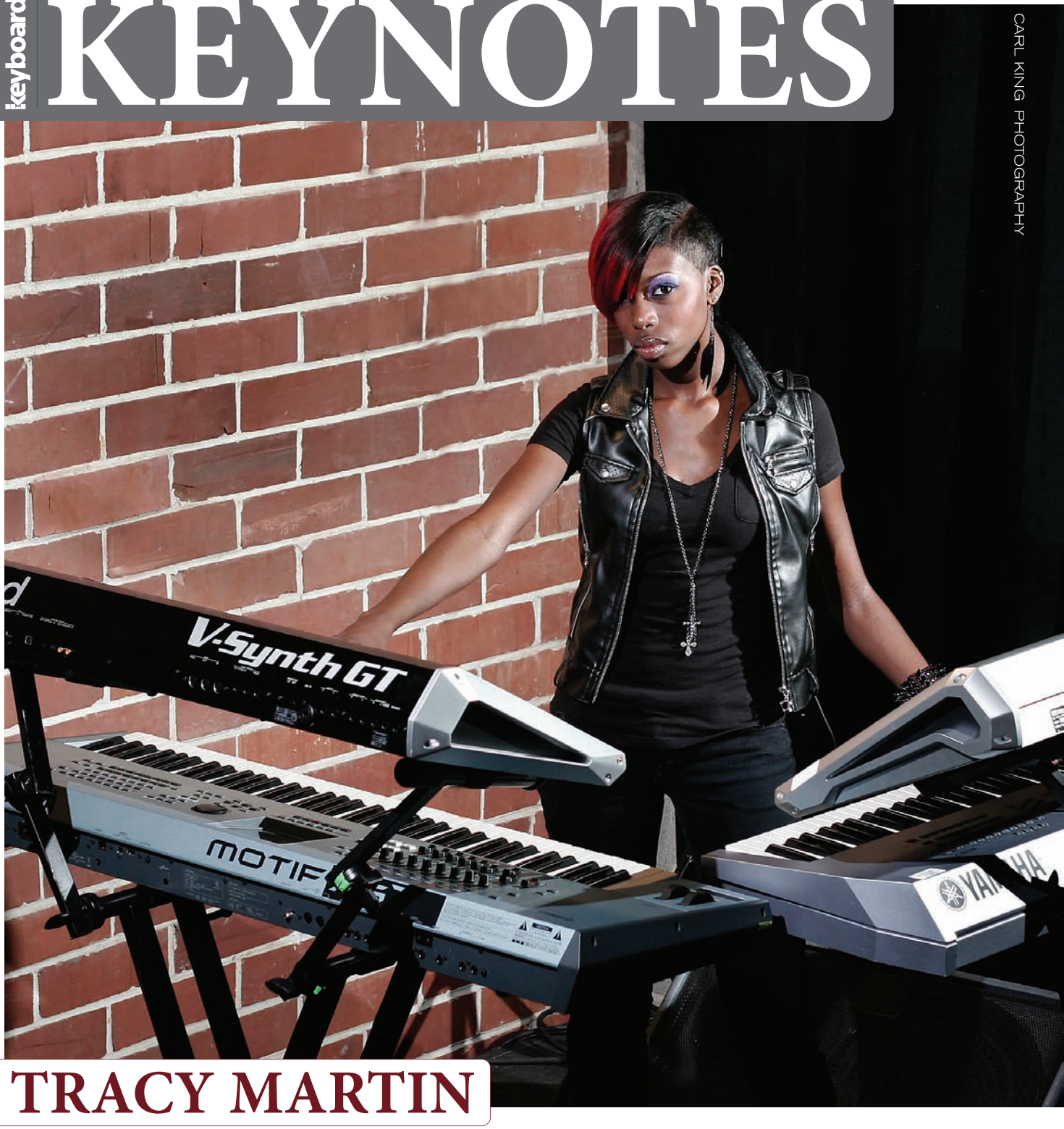
Studio Electronics SE-1: I bought mine before the Voyager came out and it's still one of the best Moog clones I've heard. I use it for secondary Moog stuff like the harmony on the famous "Roundabout" line. I play the principle line on the Minimoog. Playing both parts together sounds just like the record.

Minimoog Model D: What can I say about this synth that hasn't already been said? I refinished mine using printer ink and 12 coats of polyurethane for the shine. It sounds great on "And You and I" and "Close to the Edge."

Hammond BV: When I bought it, the cabinet was shot and perfect for a chop. I removed the pedals, preamp, and vibrato scanner, which let me cut the 400-pound beast down to 150. I added percussion and tapped the main coil for the output. I built a plywood base, which houses an Alesis 31-band EQ and Peavey Rage 100-watt amp to power my Leslie.

Mellotron MIDI controller. This one-of-a-kind controller is an exact replica of a Mellotron. The details are so good on this that the top, front and back panels, and even the cheek blocks are removable. It's MIDI'ed to my E-mu Vintage Keys rack and my Ensoniq ASR10 with the Mike Pinder samples.

Matt Riddle, Rochester, NY, via Facebook



CARL KING PHOTOGRAPHY

TRACY MARTIN

Know Your Keys to Launch Your Career

When you see Tracy Martin, it's easy to be struck by her stunning beauty and funky style. But when you hear her play, you'll know that behind that beautiful smile lies a monster musician with the chops and talent to do whatever she sets her mind to. Her first gig was with Christian group Soulace in 2007, and since April 2009, she's been playing keys with R&B superstar Musiq Soulchild. Growing up, Martin honed her prodigious musical skills through gospel music, playing drums and keyboards in and out of church in her native Atlanta, and playing trombone with her high school marching band. Though she learned to read music, she developed her ear as well, the combination of the two proving invaluable.

"I've always had a good work ethic when it came to learning songs," says Martin. "Moreover, I've always been a stickler for learning the record as-is. I think the most important thing was making sure I was on top of all my keys. I never wanted to be handicapped by the transpose button,

and had too much pride to use it. In return, having learned my keys fluently prepared me to go into more demanding situations, such as the artist wanting to change the original key to one more comfortable to their voice and me not having to fumble through the key of their choosing. Also, it just sounded good that this teenage girl could play in all her keys."

As her Soulace gig ran its course, she began touring with other well-known gospel artists such as Sonya McGuire and Friends, Ricky Dillard and Wanda Nero Butler. Her networking around Atlanta led her to a friendship with drummer Stanley Ingram, who was the first to inform her that Musiq was looking for an all-female band. Eager to reach out, Martin wrote to Musiq via his MySpace page and got an immediate response from his assistant Donnita Hathaway (who happens to be the daughter of legendary soul keyboardist artist Donny Hathaway). Martin got to audition, but didn't get the gig right away. She did keep in touch and after a few casual hangs, invited the band to one of her own gigs where they could see her in her element. "I believe that's what sealed the deal for me," says Martin. "The ladies had a chance to assess me on a general level, and onstage, all in a matter of two weeks."

In April 2009, Martin got the call to join Musiq on the *Playing It Cool* tour with Anthony Hamilton. Though they were promoting Musiq's *On My Radio* album, Martin began working in the recording studio on newer material. "Along the way I've had several opportunities to go into the studio with Musiq and be creative for his artists, for other famous artists, and even for him on his latest album, which is huge," says Martin. But learning the parts from previous albums was where her earlier preparation came into play and gave her a comfort level on the job.

"To my advantage is a highly trained ear and my almost fetishistic discipline to learn the record *as it is*," says Martin. "It hasn't been hard to learn different parts to the songs. First thing I have to do is learn main keys, which is standard for me. This also helps to separate and identify which parts go where, whether it's one synth line, or the strings coming in at the pre-chorus, or a synth pad coming in on a precise beat subdivision. Musiq typically doesn't have much to say about what the keyboards are doing, but from time to time he'll ask for a specific line or sound or voicing. Other than that, as long as we're going from what's on the record, we're good to embellish on it."

She gives high praise to Musiq as both an artist and as a bandleader, knowing that there are artists out there who don't treat their musicians with as much respect and patience. "Working with Musiq has been a blessing, especially it being my first 'industry' gig," says Martin. "Whether it's two hours or ten, we have good times in rehearsal and he has never disrespected us. When it's showtime, we pray together, and he always says, 'Y'all go out there and let's just have a good time.' Musiq always gives us time to work things out in rehearsal so we don't feel uncomfortable. On our travel days or days off, we'll all hang at the mall, or go out to eat, maybe play some cards, watch a good movie on the tour bus, or have a good random conversation. These are the times that I think matter the most. Here is where we all learn one another on a personal level and it helps us to gel on stage better." Robbie Gennet

TRACY'S GEAR

Tracy's interest in synths really took off when she was awarded a Yamaha Motif ES7 through Atlanta Falcons player Bryan Scott's Pick Your Passion Foundation. Soon after, she added a Roland XP-10 and Juno-Di to her rig, which have since given way to the more powerful V-Synth GT and Fantom-X7. Here's what she has to say about each of the pieces in her current touring rig with Musiq.

Yamaha Motif ES7

Since I've had it for four years, I've become fluent navigating it and familiar with the sounds. I split and layer certain signature sounds in Performance mode, such as the "Twist Pad," "Fat Eight," "Back Pad," and "Horizon" patches mixed at different levels. If I'm just using piano, I'll stack the main concert grand patch with a mono grand, sometimes turning the reverb to a negative value, giving it a distorted clipped sound for soloing or percussive rhythms.

Roland Fantom-X7

Layering sounds in the mixer is a cool feature of the Fantom. Some of my favorites for the show are the "Feedback E.L." guitar and a pressure-sensitive lead which reminds me a lot of some of the leads Stevie Wonder used. Also in the "Pulsating" patch list is "Going Mad," which is like a synth bell with an echo delay on it and a wide-spread synth brass section. Taking some of the attack down makes it smooth but still a strong sound.

Roland V-Synth GT

I haven't really gotten into tweaking the sounds in the V-Synth, but out of the box it's definitely a top-of-the-line 'board.

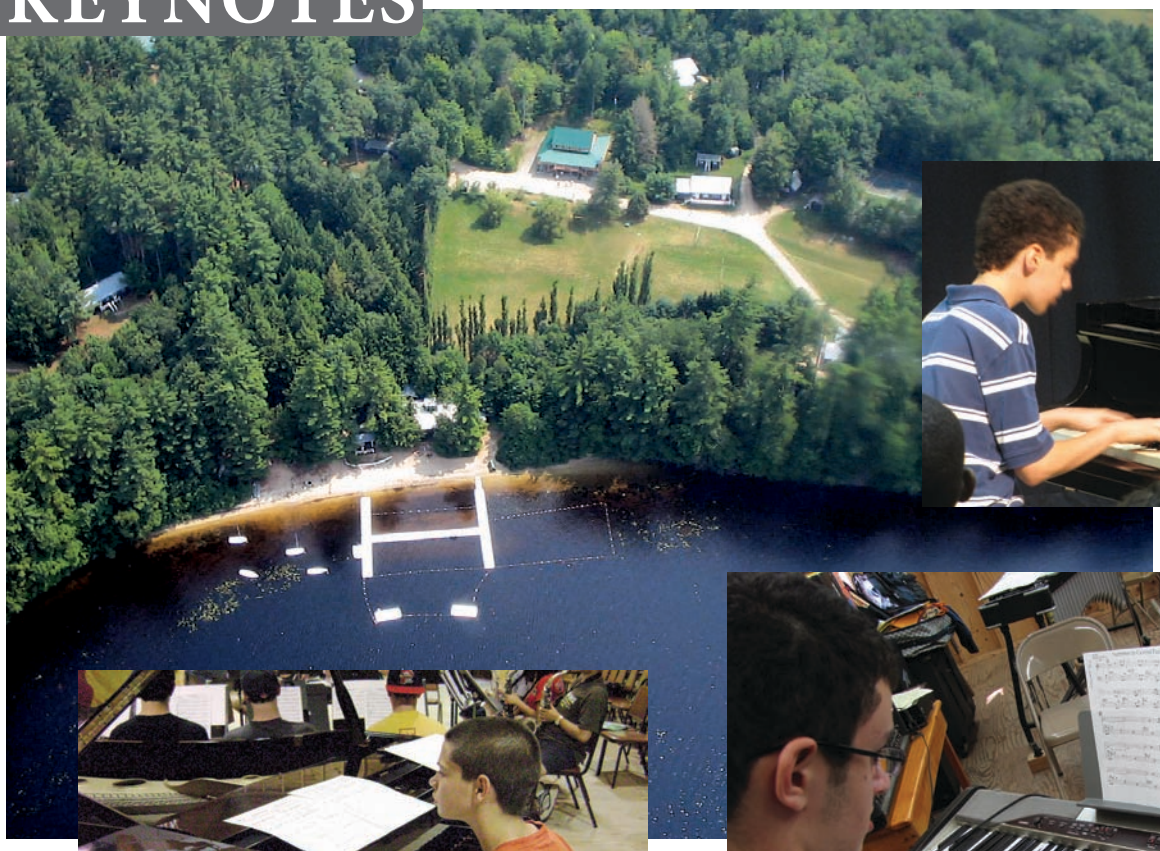
More Online

Get these links and more at keyboardmag.com/dec2010

Extended interview with Tracy on our site.

Video: Tracy throws down with Guitar Center's 2008 drum-off champ, Jerome Flood II.

Video: Tracy live with Musiq Soulchild.



CAMP ENCORE-CODA

"Human nature doesn't change," says Jamie Saltman of Camp Encore-Coda, the famed music camp he runs in Sweden, Maine. "The gadgets change at an ever-increasing pace, but the basics stay the same."

For more than half a century, the basics for Saltman have focused on old-school, performance-based music education. Camp Encore-Coda has staked a storied claim on a fertile blend of instrumental instruction and campground fun. For decades, keyboarders such as famed pianist and composer Roger Kellaway, organist Larry Goldings, pianist Sarah Cion, and this writer have all honed their musical skills there, learning theory and harmony while enjoying a brief respite from vibrating cell phones and emails demanding to be answered. It's a place where Bach, Brubeck, and basketball co-exist in harmony—sometimes all before lunch.

Encore-Coda was the brainchild of Saltman's musical parents. His father Phil was a Boston-based jazz pianist; his mother Ruth a mezzo-soprano vocalist.

"My father was playing at a cocktail party and was invited by the director of a summer camp in New Hampshire to guest as a musician," Saltman recalls. "When he arrived, he was mesmerized by the sight of this beautiful lakefront with kids playing in the sunshine. He thought, 'What if I could create a camp like this, only with music as the focus?'"

Encore-Coda was initially run out of the Saltmans' Marblehead, Massachusetts, home, then relocated to its current Maine site in 1960, on the grounds of a former sports camp. Saltman and wife Ellen would assume full control in 1993. Situated along 80 acres of Maine waterfront, the camp is much as it was some 60 years ago.

"We're slowly integrating digital recording and other technology into what we do," Saltman says, "but the focus is still very much on performance: jazz ensembles, orchestra, chamber music, and musical theater. The more things change, the more they really do stay the same!" Jon Regen

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Web pages of Encore-Coda's illustrious alumni.

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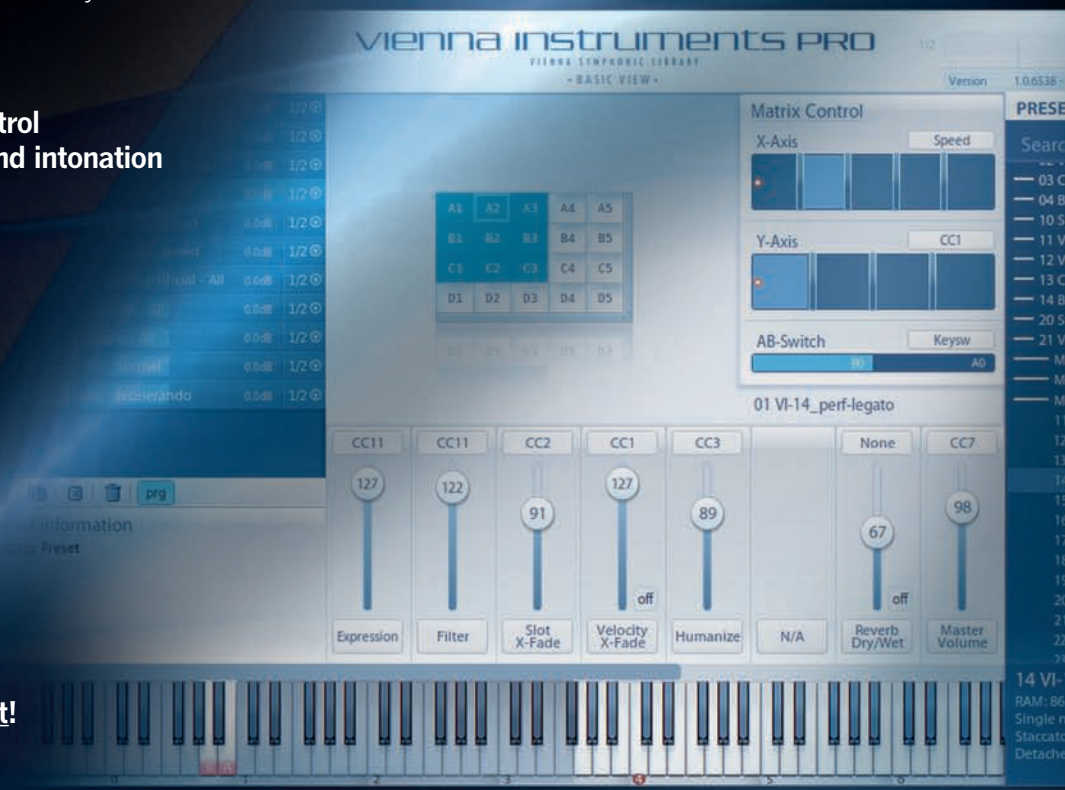

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WEEKEND WARRIOR

Richard Wilson of the Hype

DAY JOB: I paid my dues for about 30 years in mechanical engineering. I'm very fortunate that I don't need a day job anymore. That lets me just practice and learn new material.

HOW I GOT STARTED: When I was ten, a family friend purchased a huge pipe organ. It was disassembled and shipped to their home. We visited them while it was being reassembled. I got to sit at the massive four-manual console, and something just clicked. I got home and told my folks I wanted an organ. They bought me a red Farfisa Combo Compact organ and a Fender Vibro Champ amp.

GIGS: Most of the Hype's gigs are San Diego nightclubs and parties, with an occasional charity or corporate gig. We run though about 50 songs a night, from Michael Jackson's "Billie Jean" and Deep Purple's "Hush" to Cake's "Short Skirt/Long Jacket."

GEAR: Korg Triton Extreme and Roland V-Combo. Stereo outputs from each synth go into a pair of Radial JDI Duplex stereo direct boxes. Their XLR outputs feed four channels on a Mackie DFX6 mixer, which I'm about to change to an Allen & Heath ZED-12FX. I monitor through a pair of Mackie SRM450s and send a submixed stereo feed to the front of house.

INFLUENCES: For organ, Jon Lord of Deep Purple and Richard Wright of Pink Floyd. For piano, Rick Davies of Supertramp and Ray Manzarek of the Doors. For synths, Greg Hawkes of the Cars and Nick Rhodes of Duran Duran.

WHY I PLAY: It fills a space in me that nothing else does. It doesn't matter if I'm playing in solitude, or onstage for people.

MORE AT: thehypemusic.com. Ed Coury

MAJORminor

JAMEZ DAHL

Broadway Bound

Californian Jamez Dahl knows a thing or two about what happens behind the curtain. The now 19-year-old pianist and musical director has anchored stage productions of "13" and "Godspell," and currently teaches piano for the theater company Stand Out Talent.

First memory of being intrigued with keyboards: Until I was 14, I only cared about piano. After I saw Trans-Siberian Orchestra, I was amazed at all the keyboards used in their music. I bought a Yamaha portable keyboard and fell in love with making different tones. I could be playing the same song, but with a different patch, it would have a whole new meaning.

Favorite material to play: Show tunes. I also like composing music that would fit a film score. My favorite music to *listen* to is film scores, in fact.

Worst gig nightmare: I once brought a sustain pedal to a jazz band gig that wasn't compatible with the unfamiliar keyboard they had, and had to play the whole set with the polarity reversed!

How important is traditional music training? I never really had a traditional teacher. Now that I'm the teacher, lessons take on a whole new meaning. Having to teach someone else helps me master material and concepts as well.

Role gear plays in your music: I use my Roland Fantom-X8 to record tracks for vocalists and theaters to use for rehearsals. The Fantom makes it really easy for me—all I do is press "Record." Then, it uploads right into iTunes!

More at: jamezdahl.webs.com. Jon Regen

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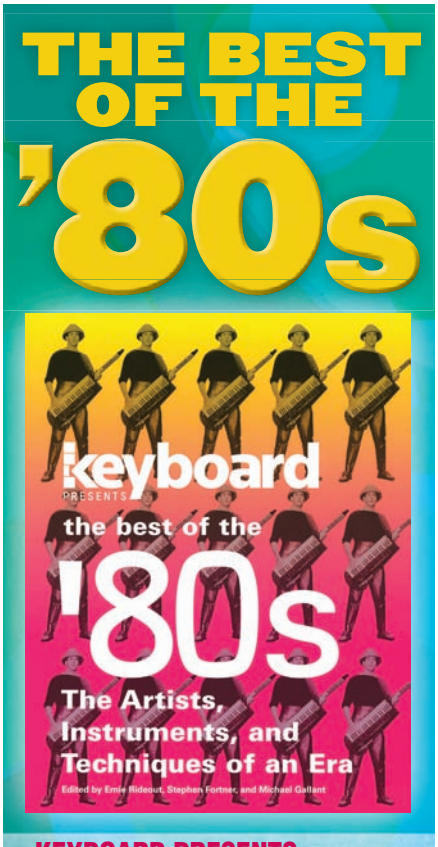

KEYBOARD PRESENTS: THE BEST OF THE '80s

THE ARTISTS, INSTRUMENTS, AND TECHNIQUES OF AN ERA

edited by Ernie Rideout, Stephen Fortner, and Michael Gallant

BACKBEAT BOOKS

No single decade revitalized the keyboard as a focal point as much as the 1980s. Now, the editors of *Keyboard* magazine have culled that era's most significant articles and combined them with a wealth of insight to create this landmark book. Features 20 interviews with noted players and producers like Jimmy Jam & Terry Lewis, Duran Duran's Nick Rhodes, Depeche Mode's Vince Clarke, Peter Gabriel, and The Human League, as well as such visionary pioneers as Herbie Hancock, Chick Corea, and Frank Zappa.

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THE EDITORS' PLAYLIST

Stephen Fortner

TAKE 6

The Most Wonderful Time of the Year

The impeccable vocal harmony of Take 6 is a magic fairy dust that renews every song it touches. When the songs in question are some of our most beloved holiday standards, the effect is multiplied. From standards like "Jingle Bells" to Tchaikovsky's "Dance of the Sugarplum Fairy" to "You're a Mean One, Mr. Grinch," Take 6 warms the heart of even the most cynical Scrooges among us. Enjoy with family. (Concord, take6.com)

THE SUPERIONS

Destination Christmas!

B52s frontman Fred Schneider lends his inimitable nasal yelp to this irreverent yet loving sendup of Christmas traditions. Most notably, "Fruitcake" celebrates the diversity of ingredients that can make up the eponymous and inedible holiday confection. What the record lacks in musical sophistication, it more than makes up for in pulsing synth-driven beats and sheer hilarity. This is the 151-proof-rum-spiked egg nog of Christmas albums. (Fanatic, facebook.com/thesuperions)

CHROMEO

Business Casual

The third-full length album from synth-playing, talk-boxing P-Thugg and suavely crooning Dave 1 retains all of the mirror-ball funk and rubbery analog ear candy of their previous gems. At the same time, it evolves their sound more into its own identity and away from tongue-in-cheek '80s retro (though that's not a bad thing at all). Standout tracks include "Hot Mess" and "Don't Turn the Lights On." Simply perfect synth pop. (Atlantic, chromeo.net)

Jon Regen

KEITH JARRETT AND CHARLIE HADEN

Jasmine

No one tackles a standard quite like the legendary Keith Jarrett. On *Jasmine*, he digs into the Great American Songbook alongside bass master Charlie Haden, on a set of storied songs by composers like Cy Coleman and Jerome Kern. Recorded in Jarrett's own studio, the album is a virtual front row seat to a duo gig by these esteemed jazz giants. Check out the opener "For All We Know" for a music degree's worth of inspiration in under ten minutes. (ECM, ecmrecords.com)

TAYLOR EIGSTI

Daylight at Midnight

"I can play standards the rest of my life, but I wanted to step away and see what I could do that was different," jazz pianist and composer Taylor Eigsti says of this latest pop-centric album. Eigsti covers his own tunes, along with Coldplay, Imogen Heap, and others. Particularly impressive is Eigsti's bass ostinato-fired romp through Coldplay's "Daylight," which pits post-bop piano pyrotechnics against the dynamic drumming of Eric Harland. (Concord, tayloreigsti.com)

GABRIELA MONTERO

Solatino

Venezuelan piano virtuoso Gabriela Montero returns with *Solatino*, a recorded tribute to the music of her native Latin America. Featuring a ferocious blend of both classical dexterity and inspired improvisation, Montero interprets works by Ernesto Lecuona, Alberto Ginastera, and others. Listen to her renegade reading of Ginastera's "Sonata No. 1" for proof of why this prodigious pianist is taking the classical world by storm. (EMI Classics, gabrielamontero.com)

What's on your playlist? What should be on ours? Let us know by email or Twitter, or at forums.musicplayer.com.

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NEW GEAR

by Stephen Fortner

NOVATION ULTRANOVA

Concept: Virtual analog and wavetable synthesis combine in Novation's first hardware synth since the X-Station.

Big deal: Single-voice synth engine with up to three oscillators. Vocoder, arpeggiator, and USB audio interface. Touch mode turns encoders into touch-sensitive modulation controls. Tweak feature groups favorite settings and maps them to knobs.

We think: The price and features aim it squarely at Roland's Gaia. We'll have a first-look video up by the time you read this.

List: $849.99 | Approx. street: $700 | novationmusic.com

KAWAI MP10 and MP6

Concept: Kawai's new flagship stage piano replaces the MP8-II; its little brother the MP6 ups the ante over the MP5.

Big deal: New samples of Kawai EX grand piano with each note sampled individually. New electric piano and vintage keys sounds are much improved. MP6 has tonewheel organ mode with nine-drawbar control.

We think: The designs are beautiful, review units are on the way, and Kawai appears to be back in the state-of-the-art stage piano game.

MP10 list: $2,999
MP6 list: $1,799
Street prices TBD
kawaius.com

YAMAHA TYROS4

Concept: The next generation of Yamaha's flagship arranger workstation.

Big deal: Vocal Harmony 2 engine works with new vocal content in Styles to provide realistic backing vocals in all genres from choral to gospel to pop to doo-wop. Super Articulation 2 Voices upgraded with more instruments and better response to your keyboard technique. Loads factory expansion sounds or user samples into non-volatile flash memory.

We think: With the sheer level of artificial intelligence inside, the T4 knocks on other arrangers' doors and asks, "Are you Sarah Connor?"

List: $5,995 | Approx. street: $4,995 | music-tyros.com

See new gear press releases as soon as we get them at keyboardmag.com/news.

M-AUDIO OXYGEN 88

Concept: The famously affordable and versatile Oxygen controller gets a piano action.

Big deal: Fully weighted, graded, 88-key action. DirectLink provides instant handshake and control mapping to common functions of most major DAWs.

List: $749.95 | Approx. street: $600 | m-audio.com

AVID'S NEW PRO TOOLS LINEUP

"A chicken in every pot, and Pro Tools in every converted garage" seems to be Avid's motto these days, as they've added new product levels which target specific user segments that may have felt left out before. Note that these add to, but don't replace, the existing lineup—neither M-Powered nor HD Accel products are going away anytime soon.

PRO TOOLS SE STUDIOS

If you're a songwriter just starting out with this digital recording stuff, or perhaps a parent wisely questioning whether your tweener will stick with it, this super-easy 16-track Pro Tools is the one for you. Three flavors—Key Studio, Recording Studio, and Vocal Studio—pair the software with different M-Audio hardware: respectively, a KeyStudio 49 MIDI keyboard, FastTrack audio interface, or Producer USB mic.

Key Studio: $129 | Recording Studio: $119 | Vocal Studio: $99 | all prices direct | m-audio.com

NEW MBOX FAMILY

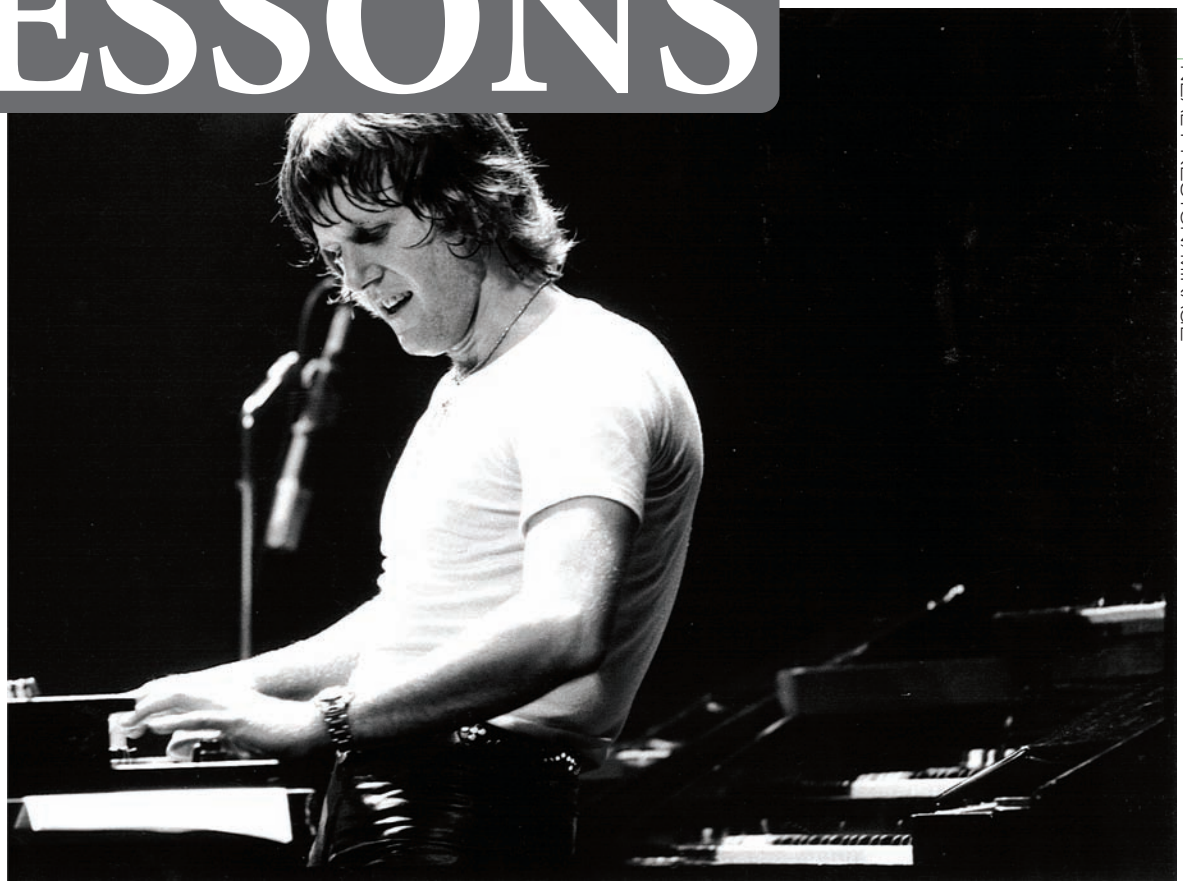
The third generation of Avid's most compact Pro Tools LE systems get more than just a cosmetic upgrade—though we do like the new look. Better converters, preamps, and drivers make for improved sound and stability, with both PTLE and other DAWs. Mini, standard, and Pro models feature one, two, and four mic inputs, respectively. The Mini's sample rate goes up to 48kHz; both its bigger siblings do 96kHz.

Mbox Mini List: $399 | Approx. street: $350
Mbox list: $679 | Approx. street: $550
Mbox Pro list: $899 | Approx. street: TBD | avid.com

PRO TOOLS HD NATIVE

If you need to get more "pro" than Pro Tools LE, but already have a smokin' fast computer and think $5K a pop for HD Accel cards is overkill, you're in enough good company that Avid saw a niche to fill. The HD Native card plugs into your PCI bus and lets you use any PTHD interface, including the multi-talented and compact HD Omni (see New Gear, *Keyboard* Oct. '10). Though the included Pro Tools software runs on your host CPU, it's all bona fide PTHD. You get 64 input channels at once (that's *not* an overall track limit) as opposed to 128 on a DSP-card-based TDM system, and the HEAT analog warmth emulation is (for now) TDM-only—but those are the only less-thans. Round-tripping to TDM systems is seamless, too.

HD Native Core card: $3,495 GRP (global retail price)
HD Native Core and Omni I/O bundle: $5,995 GRP
For other bundles, visit avid.com.



NEAL PRESTON/MIRAGE

5 Ways to Play Like KEITH EMERSON

by Matt Beck

I discovered the seminal prog rock group ELP and their renowned keyboardist Keith Emerson soon after hearing Yes. Like Yes, ELP was heavily influenced by classical music, but they still rocked like nobody's business! I loved the fact that in the "power trio" format, each musician had plenty of space to demonstrate his own virtuosity. Emerson himself was a ferocious musical force to be reckoned with. Both his stage showmanship and his keyboard mastery—most notably on the Hammond organ and Moog synthesizer—were a deep influence on me as I honed my own skills. I practically wore out my copies of ELP's albums *Trilogy* and *Pictures at an Exhibition*. Emerson and ELP were hugely responsible for bringing progressive rock music into mainstream appreciation. Here are five ways to bring Emerson's classically-influenced style into your own playing.

1. Solo Lines

One hallmark of Emerson's playing is his seemingly effortless reservoir of technique, which is especially evident in his fluid solo lines. **Ex. 1** is an approximation of his blistering solo fill towards the end of the song "Karn Evil 9." The entire line is played over an *A* tonality. This line starts off with a descending *A* Lydian scale, only to bounce back up halfway through with ascending arpeggio fragments implying a *B* tonal center (over *A*).

2. Chording

With a wellspring of harmonic choices at his fingertips, Emerson covers it all, from Jazz chording and rock riffing to virtuosic classical counterpoint. **Ex. 2** approximates what Emerson plays on the intro to the ELP song "Tarkus." Note that the example is in 10/8 time, with the left hand playing an ostinato pattern–an Emerson staple. The right hand implies an almost jazzy *F* minor 11th sound, voiced in fourths *à la* McCoy Tyner. This is also a good example of Emerson's agility and hand independence.

3. Solo Pieces

On ELP's *Works Vol. 1*, Emerson composed and performed an entire piano concerto with the renowned London Philharmonic Orchestra. It would turn out to be one of his most critically acclaimed efforts. **Ex. 3** is similar to the unaccompanied cadenza Emerson played in the middle of the piece. Again, notice his use of the ostinato in the left hand with the melody in the right.

Matt Beck is a multi-instrumentalist who plays keyboards and guitar with Rob Thomas, Matchbox Twenty, and Rod Stewart. His latest solo release *Anything Which Gives You Pleasure* is available now on iTunes and at cdbaby.com. Beck is currently working with U2's Bono and The Edge on the Broadway musical adaption of Marvel Comics' *Spider-Man*. Find out more at myspace.com/mattbecktwenty and twitter.com/mattymay.
Jon Regen

4. Outside Influences

Emerson continually covered a wide array of musical styles. An ELP song might shift gear mid-piece, going off into a seemingly unrelated musical interlude. A perfect example of this can be heard on "The Sheriff," from ELP's album *Trilogy*. Towards the end of the song, there's a gunshot, followed by Emerson playing a blisteringly fast, honky-tonk stride piano motif. **Ex. 4** approximates that piano break.

5. Left Hand Technique

Emerson is known to have a monstrous left hand. This is evidenced in the opening of "Tarkus," as well as on many parts of his "Piano Concerto No. 1." **Ex. 5** is inspired by the third movement of that concerto.

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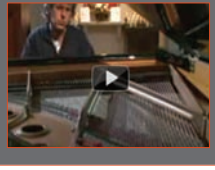
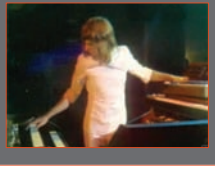
Audio examples recorded by the author.



Tons of videos on Keith's official YouTube page.



Great performance of "Karn Evil 9" from 1974.

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"Expertly recorded and programmed. Extremely flexible and musical. Impressive range of articulations and playing styles. Appropriately, the producers recorded in a legendary Hollywood facility: East West's own Studio 1, where decades of hits were recorded. Shawn Murphy did the sampling sessions—his film score engineering credits read like a list of blockbusters from the past 15 years. So yes, the sound quality is superb." - KEYBOARD

"Everyone knows that the quality of orchestral samples continues to get better and better. As the hardware and software get more robust, the producers of these libraries take full advantage of it all, creating sounds that are sonically richer; and are better than ever before. Such is the case with HS. This thing is a monster, and it has quickly set a new bar in what you can get out of a library of orchestral string samples." - FILM SCORE MONTHLY

"Onto the sound, and, unsurprisingly, it's excellent. Importantly, it's very consistent, but there are also real subtleties worth mentioning. For legato patches, velocity affects transition speed rather than volume, so playing harder means a quicker transition. Next, some legato patches combine articulations and use a tempo-detection script to switch between them. All told, Hollywood Strings is incredibly impressive. This is highly recommended. 9/10." - COMPUTER MUSIC (Performance Award)

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5 Ways to Play Like RICK WAKEMAN

by Matt Beck

When I was coming up as a young musician, Yes was the band that changed the game for me. I loved the masterful musicianship of keyboardist Rick Wakeman, along with the soaring arrangements in their songs. Wakeman's seemingly effortless command over his mammoth keyboard stack mesmerized me, as did the way he infused classical themes into his music. He was also one of the first keyboard artists to embrace new technology such as the Mellotron, the Minimoog, and ARP synthesizers. Wakeman was the first true keyboard showman I had ever seen, with a stage presence as imposing as his finger dexterity. Here are five ways to "Wake" up your own playing.

1. Solo Lines

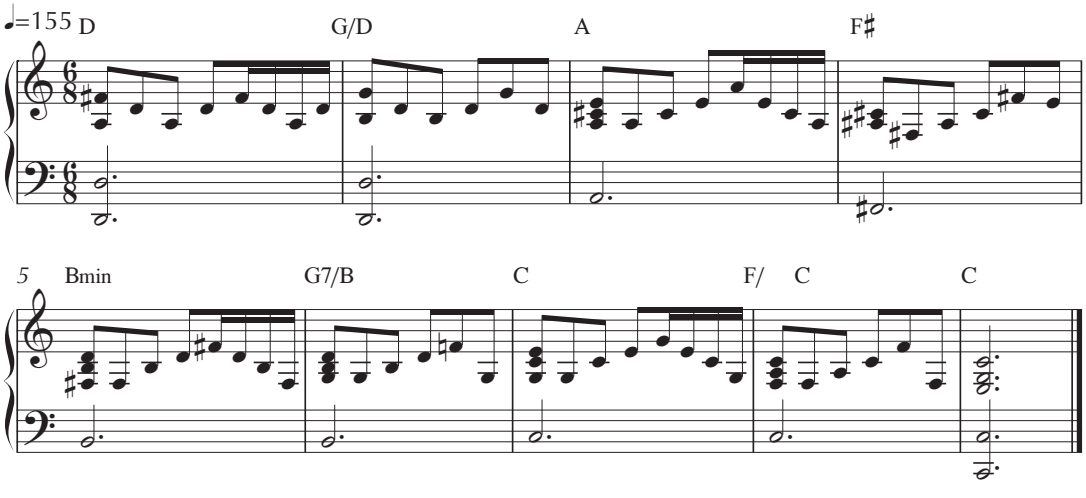
Rick Wakeman often plays cascading single-note lines for solos and as fills, as well as harmonies to guitar parts. **Ex. 1a** is an approximation of the fill Rick does in the iconic Yes song "Roundabout" right before the 2nd verse. **Ex. 1b** is reminiscent of the line he plays in the choruses. The goal is to play these lines as *evenly* as possible. Note that both of these solo lines are played on keyboards with an extremely light action, such as a Hammond B-3 or an analog synthesizer.

a)

b)

2. Chording

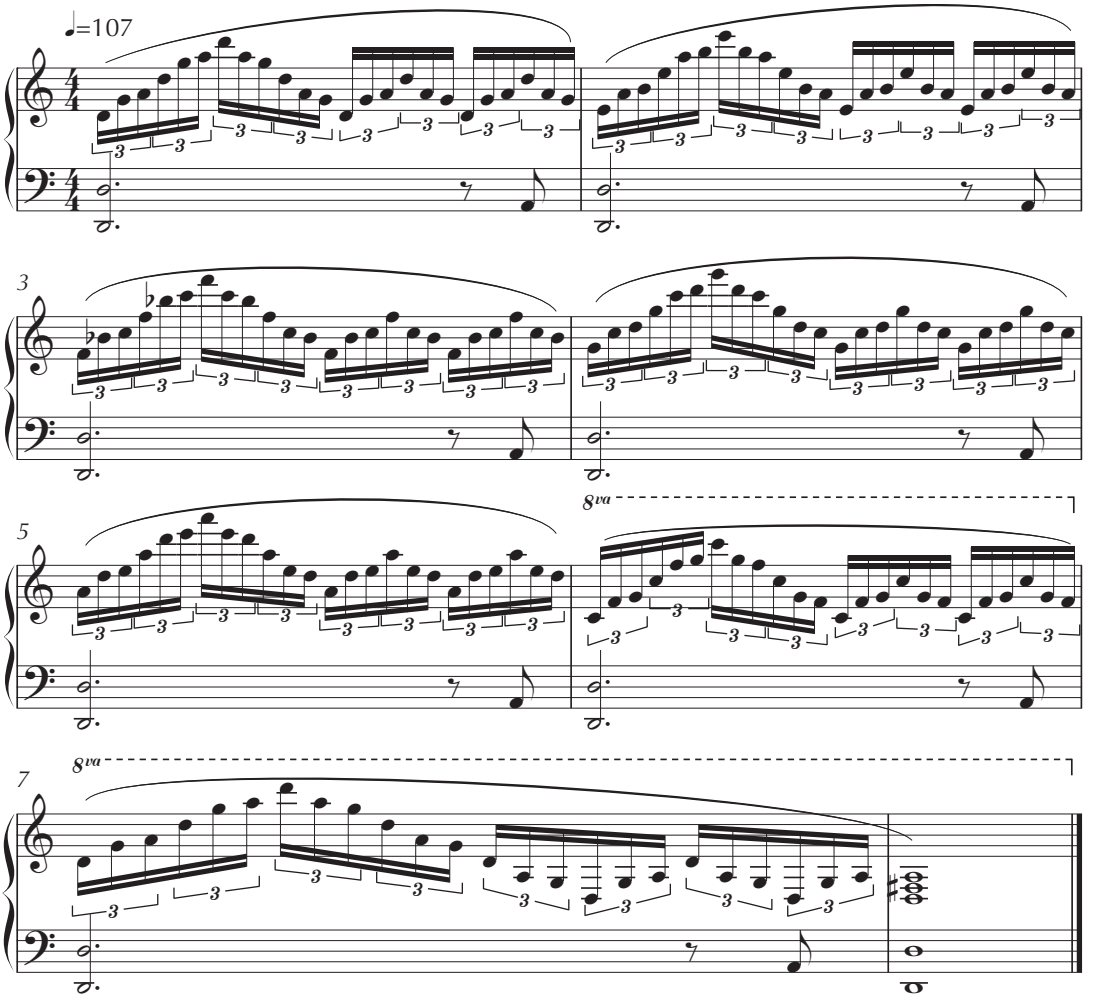
Wakeman was also known for his sideman work outside of Yes, with artists such as Cat Stevens and David Bowie. **Ex. 2** is an approximation of the intro Wakeman plays on Cat Stevens' "Morning Has Broken." Notice how he imparts an almost neo-baroque flavor to the harmony by pedaling the bass notes in measure pairs 1–2, 5–6, and 7–8. This technique is especially effective in measures 5–6, where holding on to the *B* in the bass creates a diminished-sounding tension that resolves back to the I chord in measure 7. Also, the push and pull of alternating the measures with both eighth- and sixteenth-notes adds an even greater degree of musical interest.



Matt Beck also authored the "5 Ways to Play Like Keith Emerson" lesson in this issue. See page 24 for his bio.

3. Solo Pieces

Usually, Wakeman's solo pieces are classical in nature, but he's also been known to mix them up with rock, blues, and even ragtime as well. On Yes' *Fragile* album, Wakeman pays homage the classical composer Brahms with his solo piece "Cans and Brahms." He does the same on the album *Yessongs* with "The Six Wives of Henry VIII." **Ex. 3** is in the style of one of the more challenging sections of that song. Notice how Wakeman uses ascending suspended arpeggios over the tonic to create tension and excitement.



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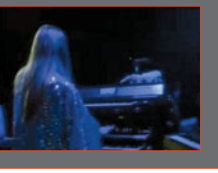
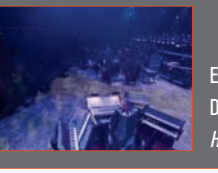


Classic "Roundabout" performance from 1973.



Excerpts from Rick's DVD *The Six Wives of Henry VIII.*

4. Outside Influences

A great feature of Wakeman's playing is the fact that he doesn't take himself too seriously in his music. Even in a spotlight solo piece like "The Six Wives of Henry VIII," Wakeman still manages to impart a comedic tone, injecting a silent film era-like musical interlude to lighten the mood. **Ex. 4** is an illustration of how he does just that.

5. Left Hand Technique

While much of Wakeman's acclaim comes from his right-handed pyrotechnics, he's certainly no slouch with his left hand. **Ex. 5** is similar to his opening piano solo on the Yes song "Awaken," from their album *Going for the One*. Here, Wakeman proves that his left hand is just as quick as his right.

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My true story of Perfect Pitch by **David-Lucas Burge**

IT ALL STARTED *when I was in ninth grade as a sort of teenage rivalry . . .*

I'd slave at the piano for five hours daily. Linda practiced far less. Yet somehow she always shined as the star performer at our school. It was frustrating.

What does she have that I don't? I'd wonder.

Linda's best friend, Sheryl, bragged on and on to me, adding more fuel to my fire.

"*You* could never be as good as *Linda*," she would taunt. "*Linda's* got *Perfect Pitch*."

"What's Perfect Pitch?" I asked.

Sheryl gloated about Linda's uncanny abilities: how she could name *exact notes and chords*—all BY EAR; how she could sing any tone—*from memory alone*; how she could play songs—after just *hearing* them; the list went on and on . . .

My heart sank. *Her EAR is the secret to her success* I thought. How could I ever hope to compete with her?

But it bothered me. Did she *really* have Perfect Pitch? How could she know notes and chords just by *hearing* them? It seemed impossible.

Finally I couldn't stand it anymore. So one day I marched right up to Linda and asked her point-blank if she had Perfect Pitch.

"Yes," she nodded aloofly.

But Perfect Pitch was too good to believe. I rudely pressed, "*Can I test you sometime?*"

"OK," she replied.

Now she would eat her words . . .

My plot was ingeniously simple . . .

When Linda least suspected, I walked right up and challenged her to name tones for me—*by ear*.

I made her stand so she could not see the piano keyboard. I made sure other classmates could not help her. I set up everything perfectly so I could expose her Perfect Pitch claims as a ridiculous joke.

With silent apprehension, I selected a tone to play. (She'll *never* guess F♯, I thought.)

I had barely touched the key.

"F♯," she said. I was astonished.

I played another tone.

"C," she announced, not stopping to think.

Frantically, I played more tones, skipping here and there all over the keyboard. But somehow she knew the pitch each time. She was AMAZING.

"Sing an E♭," I demanded, determined to mess her up. She sang a tone. I checked her on the keyboard—and she was right on!

Now I started to boil. I called out more tones, trying hard to make them increasingly difficult. But each note she sang perfectly on pitch.

I was totally boggled. "*How in the world do you do it?*" I blurted.

"I don't know," she sighed. And that was all I could get out of her!

"How in the world do you do it?" I blurted. I was totally boggled. (age 14, 9th grade)

The dazzle of Perfect Pitch hit me like a ton of bricks. I was dizzy with disbelief. Yet from then on, I knew that Perfect Pitch was real.

I couldn't figure it out . . .

"How does she DO it?" I kept asking myself. On the other hand, why can't *everyone* recognize and sing tones by ear?

Then it dawned on me. People call themselves *musicians,* yet they can't tell a C from a C♯? Or A major from F major?! That's as strange as a portrait painter who can't name the colors of paint on his palette. It all seemed so odd and contradictory.

Humiliated and puzzled, I went home to work on this problem. At age 14, this was a hard nut to crack.

You can be sure I tried it out for myself. With a little sweet-talking, I got my three brothers and two sisters to play piano tones for me—so I could try to name them by ear. But it always turned into a messy guessing game I just couldn't win.

Day after day I tried to learn those freaking tones. I would hammer a note *over* and *over* to make it stick in my head. But hours later I would remember it a half step flat. No matter how hard I tried, I couldn't recognize or remember any of the tones by ear. They all sounded the same after awhile; how were you supposed to know which was which—just by *listening?*

I would have done anything to have an ear like Linda. But now I realized it was way beyond my reach. So after weeks of work, I finally gave up.

Then it happened . . .

It was like a miracle . . . a twist of fate . . . like finding the lost Holy Grail . . .

Once I stopped *straining* my ear, I started to listen NATURALLY. Then the simple secret to Perfect Pitch jumped right into my lap.

Curiously, I began to notice faint "colors" within the tones. Not *visual* colors, but colors of *pitch,* colors of

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sound. They had always been there. But this was the first time I had ever really "let go"—and *listened*—to discover these subtle differences.

Soon—to my own disbelief—*I too could name the tones by ear!* It was simple. I could hear how F♯ sounds one way, while B♭ has a *totally different sound*—sort of like "hearing" red and blue!

The realization struck me: THIS IS PERFECT PITCH! This is how Bach, Beethoven, and Mozart could mentally hear their masterpieces—and know tones, chords, and keys—all by ear!

It was almost childish—I felt sure that *anyone* could unlock their own Perfect Pitch with this simple secret of "Color Hearing."

Bursting with excitement, I told my best friend, Ann (a flutist).

She *laughed* at me. "You have to be *born* with Perfect Pitch," she asserted. "You can't *develop* it."

"You don't understand how Perfect Pitch works," I countered. I sat her down and showed her how to listen. Timidly, she confessed that she too could hear the pitch colors. With this jump start, Ann soon realized she also had gained Perfect Pitch.

We became instant celebrities. Classmates loved to call out tones for us to magically sing from thin air. They played chords for us to name by ear. They quizzed us on what key a song was in.

Everyone was fascinated with our "supernatural" powers, yet to Ann and me, it was just normal.

Way back then, I never dreamed I would later cause such a stir in the academic world. But when I entered college and started to explain my discoveries, professors *laughed* at me.

"You must be *born* with Perfect Pitch," they'd say. "You can't *develop* it!"

I would listen politely. Then I'd reveal the simple secret—*so they could hear it for themselves*.

You'd be surprised how fast they changed their tune!

In college, my so-called "perfect ear" allowed me to skip over two required music theory courses. Perfect Pitch made everything easier—my ability to perform, compose, arrange, transpose, improvise, and even sight-read (because—without looking at the keyboard—you know you're playing the correct tones).

And because my ears were open, music sounded richer. I learned that music is truly a HEARING art.

Oh, you must be wondering: whatever happened with Linda? I'll have to backtrack . . .

Flashback to my senior year of high school. I was nearly 18. In these three-and-a-half years with Perfect Pitch, my piano teacher insisted I had made ten years of progress. And I had. But my youthful ambition wasn't satisfied. I needed one more thing: *to beat Linda.* Now was my *final chance*.

The University of Delaware hosts a performing music festival each spring, complete with judges and awards. To my horror, they scheduled me that year as the *grand finale*.

The fated day arrived. Linda gave her usual sterling performance. She would be tough to match, let alone surpass. But my turn finally came, and I went for it.

Slinking to the stage, I sat down and played my heart out with selections from Beethoven, Chopin, and Ravel. The applause was overwhelming.

Afterwards, I scoured the bulletin board for our grades. Linda received an A. This was no surprise.

Then I saw that I had scored an A+.

Sweet victory was music to my ears, mine at last! —D.L.B.

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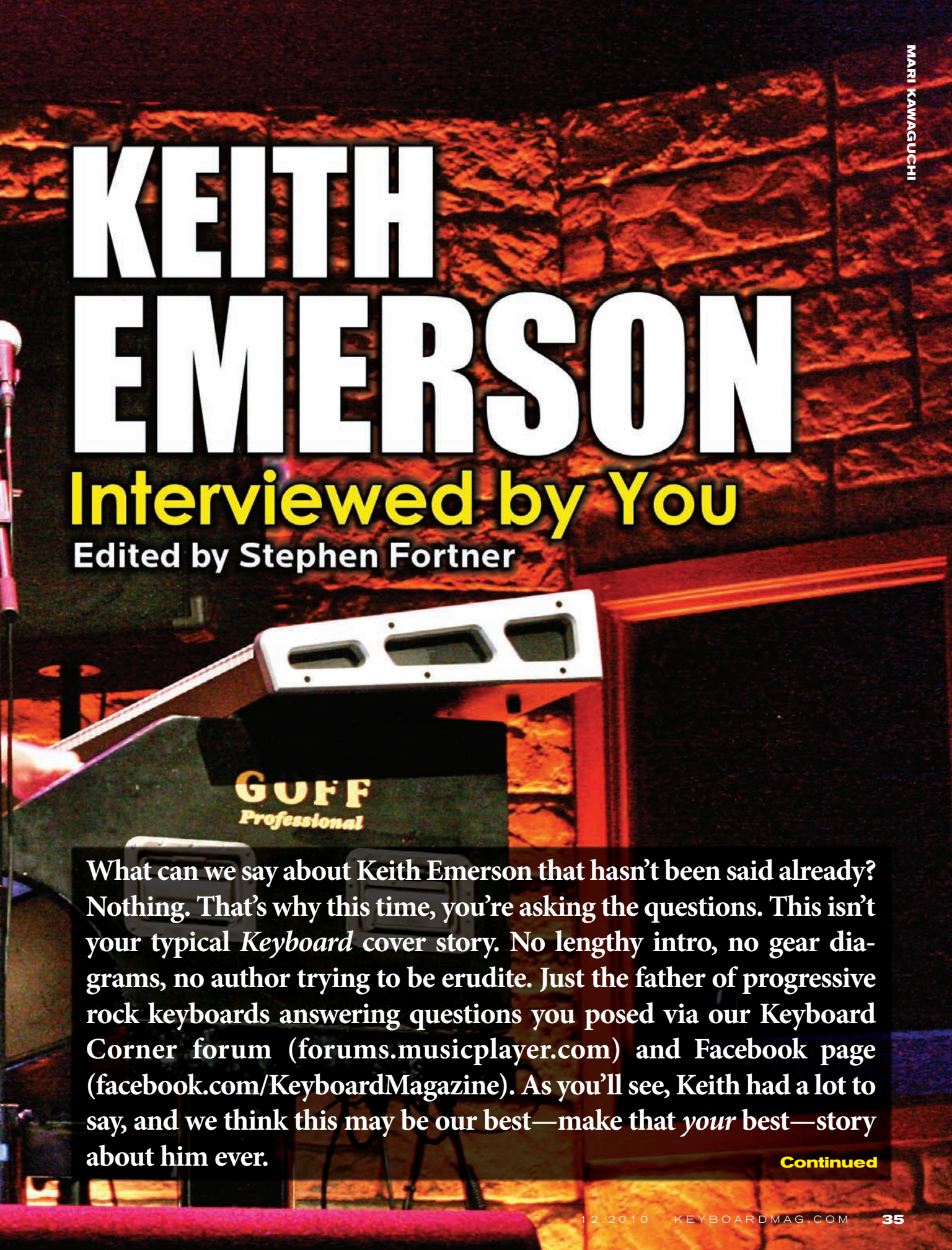
Keith Emerson onstage this past May. *Left to right:* Korg SV-1 atop Korg (new) BX-3 organ, Keith's famous Moog modular synth, and Korg OASYS 88 atop GOFF-modified Hammond C-3.



MARI KAWAGUCHI

KEITH EMERSON

Interviewed by You

Edited by Stephen Fortner

What can we say about Keith Emerson that hasn't been said already? Nothing. That's why this time, you're asking the questions. This isn't your typical *Keyboard* cover story. No lengthy intro, no gear diagrams, no author trying to be erudite. Just the father of progressive rock keyboards answering questions you posed via our Keyboard Corner forum (forums.musicplayer.com) and Facebook page (facebook.com/KeyboardMagazine). As you'll see, Keith had a lot to say, and we think this may be our best—make that *your* best—story about him ever.

Continued

[***We've identified questions by your user names, typed as you*** *type them online. Occasionally and briefly, editor Stephen Fortner (SF) interjects to keep the conversation flowing. Originally, we'd planned on Emerson and Yes keyboardist Rick Wakeman being in the same conversation, but were unable to schedule Rick in time for this issue. He'll answer these questions and others in the January 2011 issue, so see "More Online" on page 42 for how to submit yours. –Ed.*]

tonysounds: *Of all the gear you've owned and played, which is your favorite instrument, bar none? And of the synths you no longer own, which one do you miss the most?*

Keith Emerson: I'd always want a piano around. I've actually got two Steinways, one nine-footer and one seven-footer, in storage in London. At the moment, I don't have any place to put them unless I moved into the nine-footer, you know, closed the lid down and lived in it [*laughs*].

Also, I really enjoyed the Yamaha GX-1, and do miss it a great deal. It looks impressive, like a real instrument. Anything that takes such a large number of roadies to move *should* be impressive, don't you think? [*Laughs.*]

Stephen Fortner: *Do you still have a working version?*

KE: No. Back when I had it, a truck lost its steering and drove straight into my barn recording studio. It was lucky I wasn't there at the time, because I would've been playing away and the next second I'd have a tractor with a whole trailer of logs behind it go into my back. Somehow my nine-foot Steinway avoided being hit, but the tractor had shoved the GX-1 to the other side of the studio—it was bad news.

johnchop: *Which recent developments in music technology excite you the most as a means to musical expression? For example, soft synths? The resurgence of analog?*

KE: Personally, I've always liked analog because it's hands-on and it makes the keyboard player look very active. When people see you twiddling knobs and putting patch cables in, and they immediately hear the result of your activity, I think it adds to the performance. With digital or pushing buttons or little display screens that keyboard players can see in front of them, it's all well and good, but I don't think the audience responds the same way—they've come to say, "Well, of course he can get that because it's all *there*." But the *activity* of a keyboard player is as important as seeing a guitar player fling his arms around or play it with his teeth.

I think the great thing about the big Moog modular system is that it's very theatrical—it has its own light show and you really have to fight your way around it. Here's this guy playing away and when he takes a jack plug from *here* and places it *there*, the audience hears the change and it's obvious it's not pre-recorded. I've always felt that keyboard players are situated behind a piece of furniture from the audience's point of view, apart

Keith on the Yamaha GX-1 in 1977 at Montreal's Olympic Stadium. ELP's version of composer Aaron Copland's "Fanfare for the Common Man" has since become a staple of the Olympic Games.

MICHAEL PUTLAND/RETNA

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from classical pianists where you've got a grand piano onstage and there's no doubt that that guy is actually playing what he's playing, but these days a lot can be sequenced. I have used sequences to a certain degree in my time, as a means to an end, but it's not something I'm proud of.

SF: You've certainly used them less than just about anyone. . . .

KE: Well, it's much better than Madonna being criticized by Elton John, like, "She's a performer? She mimes!" People can get very bitchy in this business, and I have to be careful because people just dive on me: "What do you *mean* you use sequences?" So I'll just say categorically: I hate sequences!

johnchop (continued): How does it make you feel when you see a "Lucky Man" preset on nearly every synth made?

KE: It's very flattering, and sometimes, rather funny. You need at least four octaves to play it properly, and I remember about 15 years ago I was on the Howard Stern show, and they gave me this little two-octave keyboard! I think everyone sort of jokes about that "Lucky Man" solo now—you know, *oo-ee-oo-ee, oo-ee-oo-ee,* "Thank you, goodnight!" [*Laughs.*]

Joe Muscara: *Do you do pick-up gigs in smaller venues anywhere?*

ProfD: . . *If so, what sort of monitoring rig do you personally carry to the gig, if any?*

KE: They're coming up with loads of wonderful amps that a keyboard player can just carry around. I just saw P. P. Arnold, the lady I started off backing in the '60s, and I was intrigued by her keyboard player. He had a very presentable Hammond B-3 sound, augmented by his speaker system, which simulated the Leslie's Doppler sound.

SF: *Was it a Motion Sound? Sort of a mini-Leslie with physical rotors inside?*

KE: Yeah, I think that was it. It really helped the B-3 sound he had on this other keyboard. Anyway, if I want to sit in with a band, I may just use their keyboards and their monitors. Else, I'll bring along this little Behringer amp I have. It's great to carry for sit-ins and house gigs.

SF: *How did you settle on the Behringer?*

KE: In Los Angeles, I had the opportunity to sit in with a local jazz unit, so I went into [retailer] West L.A. Music and asked, "What amp do you recommend?" They said, "This one." I said, "Fine, put it in the car."

Bill H.: *What work are you proudest of? And the flip side of the coin: Is there any session you wish you could do over?*

KE: I'm probably most fond of my Piano Concerto and *Tarkus*, because these pieces are now performed all over the world by some great orchestras and keyboardists. I'm very proud of the Tokyo Philharmonic's version of *Tarkus* because I never thought I'd see the day where an orchestra would actually play that stuff. It's like 90 people playing—it just blew me away.

As to things I wish I could do over, no, not really. Because I've always put a lot of pre-thought and construction into all of my work. There were possibly things that happened when you want other people to play your music, though. Maybe there's one wrong note in the score somewhere. I've come across that when I've been in the audience and there's this *one* note! I've called publishers and said, "Hang on, what's *that* at bar 500-and-something?" It's like writing an autobiography, which I've actually done. When you read through the proof, occasionally there's going to be one word that puts everything out of context. The same happens with music, even more so when writing for an orchestra. You've got to

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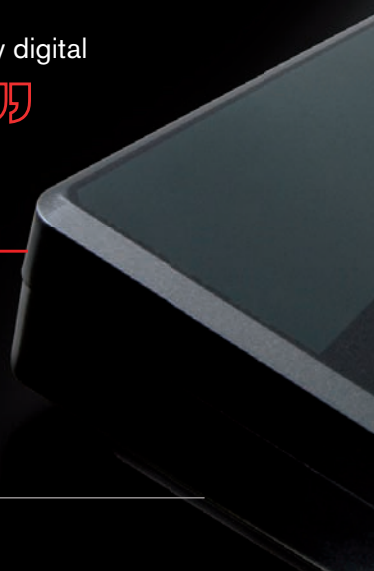

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be vigilant. If there's a horn playing a flattened *B* and it should be a natural, simple stuff like that can throw the whole piece totally.

16251: *When you soloed on the classic albums, how much of it was improvisation and how much was worked out beforehand?*

KE: Well, *Pictures at an Exhibition* was recorded live, with no editing or overdubbing. What you hear is exactly what happened on that particular night. Going on to *Trilogy*, those solos were all improvised. *Tarkus*? Pretty much all improvised. On occasions, I'd have a leaping-off point in my head: "Okay, this bit is obviously a keyboard solo, so if I dry up on a recording session I'll use this launching pad to inspire me to go on."

Of course, when you play a classic tune live, people want to hear the same solo, so sometimes I'd have to re-learn what I'd improvised in the studio. It was especially funny in the case of "Lucky Man," as I'd played that solo many years before but knew what was expected of me. I actually got help from *your* magazine! I called up [then editor] Dominic Milano and said, "Dominic, you might think this is very funny, but I need a transcription of the "Lucky Man" solo, because I'm damned if I can get it off the record!" [*Laughs.*]

Jeff Klopmeyer: *I'm a seasoned live performer and inexplicably run into random episodes of stage fright, even after hundreds of live shows. What do you think triggers that, and what can be done to prevent it?*

KE: Butterflies! A very good friend of mine once called while driving his daughter to her first piano recital. I was in California but he was in England so the phone call is at about 8 A.M. for me. My friend says, "She's very nervous. She's got butterflies." He hands the phone to her, and I say hello to this little six-year-old. "So you've got butterflies? You've got to keep those butterflies inside you," I told her. "When you get up on the stage to play your piece, which you know very well, all those butterflies will just fly out of you."

The story comes full circle. ELP recently played the High Voltage Festival in the U.K., and I was very apprehensive about the delay in getting the gear onstage. All the vintage Moog stuff is very sensitive, and as at many large festivals, there's no sound check—you just haul everything on. We were shooting a DVD there, and I was wondering if anything would work at all, let alone be recorded. My friend's daughter, who's now about 14, was there, and could see how upset I was. She told me, "You have to let all those butterflies fly out of you."

The Real MC: *What are your memories of Bob Moog*?

KE: What a sweetheart. He felt this eternal wonderment that his creations could be used to such entertaining effect all over the world. I'll always remember the time he came to an ELP show at Gaelic Park in New York City. I situated him somewhere onstage, and he couldn't believe the confidence I had in his synthesizer, and the fact that so many people in the audience marveled that it was being used to such wonderful effect in a live concert.

I came into [the Moog synthesizer] after I'd heard it on Wendy Carlos' *Switched-On Bach* album. Up until that time, Bob's creation had been used purely in studios. Then, he saw a lot of the early ELP performances we did in America, and heard "Lucky Man." I think that was the turning point when he realized the Moog was not only a studio extension, but could be marketable for live musicians.

I don't think Bob had any idea that it would come this far. In fact, every time I play my big Moog modular, I can hear Bob laughing up there. I'm so pleased that his daughter Michelle is looking after things, and the Moog name is to synths as Steinway is to pianos and Hammond is to organs. I also think Korg synths are wonderful, but the Moog is *the* synth in the same way that the Spitfire—for those of us in England—is *the* airplane.

Tim Wat: *What still drives you to create? What still excites you about playing after accomplishing so much in your career?*

KE: Exploring other compositional and harmonic directions and new sonorities while using a very limited scale of 12 notes. I remember when I was writing the music for the Emerson Lake & Powell album, and Cozy Powell came down to my Sussex barn studio along with Greg Lake. I had this magnificent old house, which had a very squeaky gate. Every time I swung the gate, it would "sing" four notes, and I thought that was absolutely marvelous. Using these four notes, I wrote what became "Learning to Fly." I pick up on different things. I had a parrot that was very vocal. One evening, he was singing all these lovely melodies, and I ran to the keyboard and added chords. I actually had to record that. Sadly, Smokey has now died but I think while he was living, he was looking for his BMI royalties.

SF: *Do you often find inspiration in "found sounds" or ambiences like that?*

KE: I do. It makes me rather boring at parties. I'm slightly deaf so I don't really discern the difference between T and S sounds, for example. So all the chatter becomes rhythmic, so I'll just sit there on my own and chart a rhythm. I started off this way when I wrote for the Nice. We were flying back from some gig in Ireland, I put my head against the window, and the roar of the aircraft engines prompted a fifth and a fourth and kept changing. I actually drew some bar lines and wrote out a theme on an airsick bag, which became the beginning of *The Five Bridges Suite.* I still have that airsick bag. It might be interesting to put on eBay—I could say, "Will trade for Yamaha GX-1!" [*Laughs.*]

Bryan Eyberg: *How actively and how much do you still practice ragtime piano?*

KE: I've always been into ragtime. In England—and I'm sure Rick Wakeman would concur—we loved Winifred Atwell, a fantastic honky-tonk and ragtime player. She was very popular in the mid-'50s, and her style was taken on by pop performers such as Russ Conway. Every pop song of the '50s had to have some sort of piano. When you speak to Wakeman, he'll have something to say about a lot of these players, because ragtime affected us quite a lot.

So, *my* style of playing came from my father's influence. He wanted me never to become a "one-handed piano player." That's why I concentrated on Bach early on. Ragtime also has a lot going on in the left hand. When I was 14, I couldn't stretch [my hand] to a tenth, so . . . say you're playing a *C* major stride thing. I'd play the lower *C* of the octave, then leap up to the *E* above the next *C*. In ragtime, you either strike up from the *C* to the *E*, or you can go backwards—you strike down from the *E* to that lower *C*. I normally went up, because at least if you state the root of the chord first, but fail to hit the tenth, you can be slightly forgiven.

Jerry Kovarsky (left) presents Keith Emerson with a Lifetime Achievement Award from Korg at the 2009 Winter NAMM show.

ELP71: *Keith, did ELP ever think about scaling down, exploring jazz, and playing smaller venues?*

KE: I think *Spinal Tap* put it very well: If you're a jazz musician, there are no wrong notes. And if you do make a mistake, play it over and over so it looks intentional [*laughs*]. Seriously, I'm personally very fortunate to have played with Oscar Peterson, Brother Jack McDuff, and others in the field. I don't know what ELP would sound like because we haven't tried it. Carl Palmer is a very technical drummer, and he has played with big bands as I have, but I think that what draws out the jazz aspects of *my* playing is playing with other people who are themselves schooled jazz musicians. And as much as I could be tempted to bring the Moog in and make it roaring loud, that's not the route I'd go if I were to play in a smaller unit.

SF: *I think that reader ELP71's question came from the natural curiosity of, "What if ELP did something* totally *different?"*

KE: It *is* an interesting question. Once, we tried to record Booker T.'s "Green Onions." I don't know whose idea it was, but there's only one "Green Onions," and that's Booker's version. Even the great Jeff Beck said it's one of the most difficult tunes even though it's such a seemingly simple riff. You hear every bar band play "Green Onions" and you're like, "Oh, get out!" But if *anyone* shouldn't go there, it's ELP! [*Laughs.*]

Bosendorphin: *Is there any possibility you and Rick Wakeman would tour together in more intimate settings?*

KE: We've spoken about it. I think the last time was at the MoogFest at B.B. King's club in New York, and Rick reckoned that he might bring some financiers to bear. I went on his Planet Rock radio show

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[planetrock.co.uk] and we had a great laugh about it. We'll see what happens, but yeah, we're up for it.

McGoo: *I've noticed you're not big on using pitch and modulation wheels—at least not in the sense of players such as Jan Hammer. Can you discuss?*

KE: While I've used pitch and mod from time to time, I find them to be unnecessary ornaments. I'd rather cut right to the bone and hit you hard with straight notes. Ornamentation is fine—Bach and Mozart have an awful lot of mordents and inverted mordents and cadenzas and the like—but for me it's a bit superfluous. I prefer to be adding my own chords, stuff for my right hand to paint over. If you're the keyboardist in a trio, you've got two hands. If there's a guitarist or sax player soloing, you need to supply all the chords, which you can't do if you're pre-occupied operating all these controls.

tarkus: *Outside of your bandmates in ELP, who was the best musician you've played with?*

KE: It depends what instrument—that's a difficult question. I'd love to say Oscar Peterson, but I can't say we've *collaborated*, except that I was in awe when he said, "Will you conduct 'Honky-Tonk Train Blues' and let me know when you want me to start playing?" That blew me away. Obviously, I'm still in awe of all the heroes I grew up worshipping, and I'm very fortunate to have met most of them and, on some occasions, played with them. As a keyboard player, you can't go much farther than Oscar Peterson. I still watch that BBC TV thing we did, which I think is probably on YouTube, and onscreen I look like I'm facing Armageddon. But Oscar was a real sweetheart—just great.

Tom A.: *Please expound on the pluses and minuses of the digital revolution on music and the music biz,* e.g. *low-cost, high-quality recording equipment on one hand, piracy on the other.*

KE: I'm all for encouraging young talent—even if it takes sequencers and modern-day equipment to make them realize what they're capable of. I do think the new generation coming up wants immediate satisfaction. This is dangerous in one way: If you have to work at something, then you appreciate it a hell of a lot more at the end of the day. It's good that technology allows someone with even a rough knowledge of music to go, "Wow, I did that!" But what they have to learn after that is how to make it presentable to an audience, whether parts they've sequenced or recorded can be played live . . . and then, where to take it next.

Tom, your question also concerned piracy. Most artists like ELP reinvest their profits into future recordings and touring—yet pirates are the first to complain if tours are cancelled! Because of downloading and piracy, the next generation of musicians will find themselves denigrated to the level of the 17th-century minstrel, going from tavern to tavern, playing for food, beer, and a bed for the night, maybe selling a song here and there.

SF: *If you're an up-and-coming band in America and you sign a "360 deal," it's already like that!*

KE: Exactly. Piracy is more the reason that real players are a dying species. It's not because some kid can make a sequence on a computer.

wjk: *Is there a piece of music from Rick Wakeman's catalog you wish you'd recorded?*

KE: "Elizabethan Rock." I think some people tend to regard us [British rockers] as not very humorous, and Rick's humor and Englishness come across wonderfully in that piece. Another piece of Rick's I really like is "The Palais," which borders between melodic and ragtime.

wjk (continued)**:** *What keyboardists out of your contemporaries do you feel should have received greater recognition?*

KE: Without a shadow of a doubt, Brian Auger and the Oblivion Express.

wjk (continued)**:** *You get your pick of four people for your dream band—living or deceased, but no one that you've played publicly with before.*

KE: Rick Wakeman, Louis Armstrong, Spike Jones, and P.D.Q. Bach. Apart from having wonderful senses of humor, they're all great musicians.

Wesley R. Dysart: *How do you connect with the source of your creativity?*

It's more as if it connects with me. It gets back to a previous question about listening to squeaky gates, a parrot that sings silly tunes, et cetera.

Brian Burgon: *What would you like to see happen with the next chapter of keyboard technology?*

KE: Programmable roadies, with mind-to-MIDI interfaces! [*Laughs.*]

Ron Cholfin: Are there any keyboards you've regretted using? What was the worst gear nightmare of your career?

KE: Though you're always at the mercy of electronics, I once played a piano ELP had asked for that, to my horror, had several notes missing. I had to play a piano solo, so I used this, hopefully to great humorous advantage. I pointed out the notes to the audience: "Okay this *A* here and the *B* next to it—the hammers are missing so whenever you see my fingers go up to the top end of the keyboard, I want you to sing these notes!"

SF: *Facebook friends* ***Tom Bitondo*** *and* ***Thalia Stevens*** *ask related questions: Have you ever thought about publishing a volume of rock études? Or offering master classes so that students can pass along your technique as they did for Mozart, Beethoven, and other greats?*

KE: Quite honestly, I think Rick [Wakeman] is the guy to get that going. I don't really want to sit down and analyze what makes what I do happen. A lot of what I write comes after much torturous self-examination, and the idea of an étude is a bit anomalous in rock, where more than half of what happens is accidental. When I practice, I tend to play the usual exercises—like Hanon.

Juan Oskar JayMaynes: *How do you create alternative chord changes to standard songs?*

KE: I love this challenge, particularly Hoagy Carmichael—I came up with some great changes to "Skylark" recently. It's encouraging; you keep playing but you disguise it in all these colorations above and below. It's like England at Christmas, where choirs sing standard carols, but then they get into *descant* and sing above and underneath the main melody.

Hammodel AV: *Was there an underlying social or musical culture that made English musicians essentially create the genre of prog rock?*

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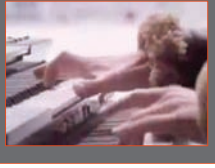

Classic performance of "Fanfare for the Common Man."

Submit your questions for Rick Wakeman in the next issue!

Extras from this interview.

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KE: I once asked [Deep Purple keyboardist] Jon Lord this, and he said, "Man, there must have been something in the water we were drinking!" [*Laughs.*]

SF: *We're going to close with a question I know is sensitive. Given your arm surgery in the early '90s, too many readers to name have inquired about the health of your hands.*

KE: At this point, it hasn't made too much of a difference in the way I approach music. I had this operation that I now know was unnecessary because I've seen a lot of other neurologists since. It destroyed a few nerve endings. I've had a long battle to overcome it, and for a time thought I was going to end up like João Carlos Martins, who had to give up playing with his right hand. I think where the original problem came from was a motorcycle accident where I got whiplash, as the ulnar nerve starts at your neck and goes down your arm. I'm getting better because I've learned to drop my wrists and relax my thumbs, and the good news is, I think my composition has actually improved. I may look awkward, but all musicians have their "stances"—Horowitz had very flat fingers, and Monk looked so awkward when he played that he felt embarrassed. When people at concerts ask me, "How's your arm?" I usually respond, "Well, how did it sound?" If it sounded good, that's all that matters. I'll always find some way to get the f***ing music out! k

Keith in *Keyboard*: Previous cover stories on Keith Emerson can be found in our October 1977, April 1988, June 1992, and April 1994 issues.

RIKA VAN RENSBERG

How Keith Felt about Your Questions

I bought my first Hammond organ, I think, when I was about 15 or 16. It was the L-100, on "hire purchase"–what you'd call rent-to-own in America. But it just didn't sound like Georgie Fame, a singer and keyboardist who was then quite popular in London. The main music paper was the *Melody Maker*, and they had a question-and-answer section. So I wrote to them asking Georgie how he amplified and miked up his Hammond–and I actually got a reply, which I have in a scrapbook. I haven't met Georgie Fame but I've thought of going up to him and saying, "Do you remember me? I wrote you in 1950-something!" If I hadn't gotten that reply, well . . . who knows? So I think these sorts of questions are very wonderful. Keith Emerson

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Steal This Sound

KARN FROM KEITH, KATE FROM RICK

by Mitchell Sigman

As this month's *Keyboard* pays tribute to Keith Emerson, we'll cook up one classic Moog patch from him, then another from the only other rock keyboard hero people speak of in the same breath: Rick Wakeman of Yes. We begin with the instantly recognizable intro patch from ELP's "Karn Evil 9: 1st Impression, Pt. 2." I used Arturia Moog Modular V, a virtual Moog modular emulator.

Step 1. Amble up to your monstrous Moog modular, or perhaps a plug-in equivalent, and set two or three oscillators to sawtooth waves in unison, then detune them enough to achieve a thick chorusing effect.

Step 2. Route the oscillator outputs to Filter 1, then route its output to the VCA IN jack at the bottom right corner of Envelope 1.

Step 3. Set the filter cutoff relatively low, and Emphasis (resonance) just high enough so that a secondary "ringing" is heard.

Step 4. Set the amplitude envelope controls for a long attack, zero decay, full sustain and long release. This isn't crucial, just make sure the sustain is up.

Step 5. Now for the secret sauce: Modulate the filter cutoff frequency with a low-frequency oscillator (LFO) set to a sample-and-hold waveform. Dependent upon LFO rate, this chooses a random value and keeps it there for a fixed time before moving on to another value. Set LFO frequency to about 9.5Hz. Make sure the "Manual" knob is full up in the LFO section, then connect a cable from the sample-and-hold waveform output in the VC LFO module (the one at far right with a squiggly line above it) to the filter cutoff modulation input, then turn up the mod amount to about 0.4068 using the "ring" control on the input jack.

Step 6. Tweak the cutoff frequency and emphasis controls to dial in the sound.

Step 7. For the full stereo effect, pan the sound slightly to the left in your DAW, then use a bus send reverb set to a vintage spring or plate, and pan that slightly to the right.

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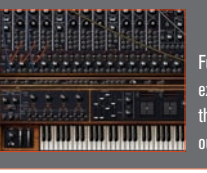

Full audio examples of this tutorial on our site.

Complete archive of Steal This Sound audio on the author's site.

Rick Wakeman's solo masterpiece *The Six Wives of Henry VIII* is full of screaming Minimoog solos, but I've chosen one of the more unique patches, heard around the 4:00 mark on "Catherine Parr." It's a lead with a pronounced, slow resonating filter sweep that doesn't follow individual notes. This is because stock Minimoogs only retrigger the filter envelopes if all notes have been released; when the envelopes are set to slow times, they continue to run when notes are fingered legato. I used Arturia Minimoog V to create the patch.

Step 1. Set all three oscillators to sawtooth waves. Set oscillators one and two at 16', and oscillator three at 8', then detune them for a gentle chorus effect.

Step 2. Make sure all three oscillator on/off switches are on in the mixer and set their volumes equally.

Step 3. Set filter cutoff around 200Hz, and Emphasis (resonance) all the way up—*turn down your speakers* prior to doing this! Set "Amount of Contour" halfway up, attack at 10ms, decay around 1700ms, and sustain around 2.

Step 4. Now set the Loudness Contour (volume envelope): attack about 300ms, decay around 800ms, and sustain at full.

Step 5. In the control section to the left of the keyboard, make sure the Glide, Decay, and Legato switches are all on, and turn the glide knob up about halfway.

Step 6. Add some long, dark spring or hall reverb with an insert or bus effect for atmosphere.

When playing this patch, notice how the resonance sweeps slowly over the notes when playing legato. It's like getting two sounds in one!

Dance

DISTORTION TRICKS, PART 2

Last month, we took a deeper look at waveshaping and overdrive. This month, we'll look at alternative uses for bit-crushing. Ableton Live refers to this effect as "Redux," and Propellerhead Reason includes it in its Scream device as the "Digital" mode. The bit-crushing sound is based on down-sampling. By reducing the sample rate of digital audio—without the usual filtering of frequencies that are greater than half the sampling rate—the result is *aliasing*: grungy artifacts of the sample rate being too low to accommodate the audio's upper frequency range. Normally, you don't want it. Here, we'll dare to be different. Francis Preve

Example 1: Crunchy Top Loops

Sometimes hi-hats and top loop material can have too much high-end sizzle. EQ is a common way to tame this, but bit-crushing can accomplish a similar thing while adding a bit more upper-mid crunch. The secret is to use just a tiny bit. Here's Apple Logic's processor in action.

Example 2: Tuned Aliasing

The aliasing tones created by down-sampling can often be tuned to the overall key of your mix. So, analyze the dominant pitches in your mix and tune your effect to reinforce the musicality of your production. For rhythmic loops, you can transform the part entirely by adding a gate after the bit-crusher, then adjusting the threshold until a tighter rhythm is created.

Example 3: Video Game Explosions

Some bit-crushers, such as Ableton Live's Redux, include a "hard" mode for down-sampling. This is often too intense for a mainstream mix, but it excels at vintage video game explosion effects. Just run a noise burst into Redux and twiddle until you get that "Missile Command" sound. For Reason users, Thor's noise oscillator has a sample-and-hold mode that does this trick quite nicely.

Example 4: Rises and Falls

In previous columns, we've covered the ups and downs of creating rises and falls. For a tougher version of this production trick, try automating the down-sampling value of your bit-crusher. Higher values create lower pitches, and vice versa, so as always, use your ears as you automate the effect.

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Audio examples by Francis Preve.

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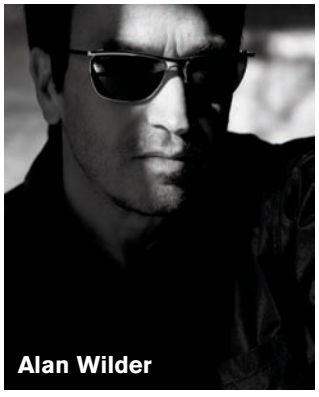
Producers' Roundtable

BASS IN YOUR FACE

This month, we asked our expert panel how they get their bass to sound huge, organic, distinctive, or all three. Reach out to us by your favorite means (see page 10) with topics and names of artists you'd like us to interrogate. Francis Preve


Alan Wilder

Alan Wilder

(Recoil, Depeche Mode | recoil.co.uk)

I favor real bass guitar slides mixed with sequencer parts, with the electronic elements often derived from a Minimoog, Oberheim, or Novation Supernova. A combination of electronic and real can have a great effect, especially when the boundaries are blurred, hopefully giving a sense of human feel but also precision. On Recoil's *Liquid*, I often sampled Dean Garcia's fret slides and used only those going into a sequenced synth part whose root notes were doubled with the real bass. Faster notes in between the roots might be the sequenced synth only.

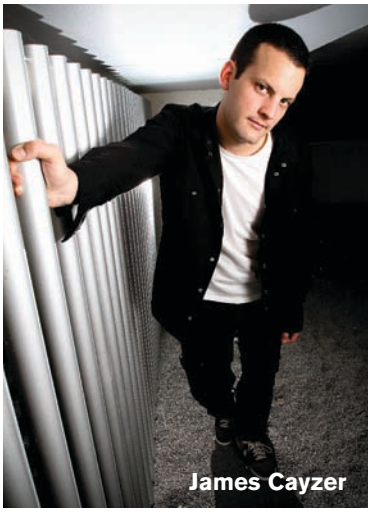
Dan Kurtz

SHERVIN LANIEZ

Dan Kurtz

(Dragonette | dragonette.com)

Being a bass player, I like doubling real electric bass parts with synth bass, or vice versa. If the bass guitar ends up as the prevalent character of the part, then I rarely quantize it as much. Instead, I do takes until I get parts I like. When I double it with the synth, I'll manually line up the synth notes with the bass performance. If it's the other way around (the bass guitar added to an existing synth line), I'll chop up the bass guitar part, then quantize both parts together, generally with about 90% strength. For mixing, I'm currently crushing on Waves' Chris Lord-Alge Bass plug-in for both electric and synth bass. I like its distortion and compression options, as well as its general character.


James Cayzer

James Cayzer

(Jaytech | jaytechmusic.com)

I usually layer a clean sounding synth, such as Logic's ES1, with a syncopated riff in the lower midrange from Native Instruments Massive, which adds a snarly or gritty element. Keep your bass pattern relatively simple if your melodic elements are complex, and vice versa.

Josh Harris

Josh Harris

(myspace.com/seirenproductions)

When you think back to the bass lines that Bernard Edwards played in Chic, they not only moved the track, but were very musical hooks. To apply that approach to bass programming, I'll sequence my bass line into my Akai MPC, standalone. I know there are MPC-style quantize templates for all DAWs, but I like the imperfect feel of the hardware. Then, I'll fly the sequence into Logic or Pro Tools and line it up against the grid. For sound sources, I gravitate towards Spectrasonics Trilogy, my Studio Electronics SE-1X, or my Access Virus TI.

Boom Jinx

Boom Jinx

(boomjinx.com)

The simplest answer is to play the bass line on a keyboard and deal with quantization, velocity, MIDI note length, and automation afterward. This is more likely to give you an organic result than hours of trial and error on a computer—even if you can't play very well. As with melodies, there's something more organic when you sing or play compared to moving "Lego bricks" around on your million-dollar flat screen.

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How to complement your bass with unique kick drum sounds.

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Advanced Keys, For a Song

The Latest Controller Keyboards from Avid, Behringer, Cakewalk, and Novation

by Peter Kirn

Not so long ago, keyboards designed mainly for controlling software were viewed as toys, or as stepping stones to more serious hardware solutions. It's not that way any more. Computer software is capable of extraordinary models of analog synths, vintage electric keyboards, acoustic pianos, and more, and those sounds have ventured from the studio onto the stage in some of the world's biggest acts. Software has grown up.

So have controller keyboards. This roundup represents midrange but very affordable entries recently introduced by Avid (M-Audio), Behringer, Cakewalk, and Novation. Beneath their fairly generic exteriors, even these low-cost options have surprisingly advanced features, improved key actions, and robust control options, along with various free pack-ins. So, once software and keyboard are working in concert, which controller is for you?

Form Factor

The Avid M-Audio Axiom, Novation Nocturn, and Cakewalk A-Pro series all aim at the same basic combination of features. Each has knobs, dedicated transport controls, and dedicated octave shift buttons. Each has a two-by-four grid of velocity-sensitive drum pads. The M-Audio and Cakewalk keyboards each add nine faders to the knobs, ideal for use as drawbars, synth programming (particularly envelopes), or mixing; the Novation uses only knobs.

Each is reasonably handsome, though the Cakewalk and M-Audio deserve special mention. Cakewalk and Roland have finally made a keyboard that looks at home next to serious Roland synths, in contrast to various decal-covered Edirol predecessors. M-Audio has copied the sleek design of its Axiom Pro, minus the Pro's *Speed Racer* white styling, and added a slight angle to the control panel above the keyboard.

The Behringer UMX series is the odd man out, but like the others, it represents a recently-introduced revision to the maker's midrange controllers. Behringer has opted for a glossy red hot-rod finish. It's the cheapest-feeling enclosure of the four, but it also has the lowest price, so that's forgivable. By forgoing bells and whistles in the controller department, it's also the most compact, and focuses instead on its keyboard action—with very good results.

Actions and Feel

If you walk into a store and pick out the cheapest MIDI keyboard, it's going to feel pretty awful. The good news is, for a little bump in street price, the four units here represent a huge leap in feel, well worth the extra cash. Each is eminently playable, and—in a positive trend—each feels significantly better than its immediate predecessor from the same maker. I expected feel-alike keyboards, but that's not the case at all. These are still synth actions, but as such, they're each several notches up in quality from the entry level, and they each feel distinct from one another.

Behringer UMX. The Behringer surprised me. The enclosure, low price, and basic feature set made me expect a lower-quality action, but the UMX delivers a great-feeling keyboard. In a blind test, you probably wouldn't pick out the UMX as the least expensive (it is), and the responsiveness was dead-on. Behringer has weighted the keyboard slightly, and it's very resistant for a synth action. If you like the keys to fight back a bit on sounds such as organs, it's ideal, but some players may find it too springy.

Cakewalk A-Pro. It may look like an Edirol, but think Roland—it shares the higher-quality, semi-weighted feel of pricier Roland synths, though technically, the keys aren't semi-weighted. There's a significant amount of resistance, consistent expression and velocity response, and that distinctive shallow thunk Roland keys make when they bottom out. For fast playing and wipes, I actually like the lighter feel of the Novation, but if you prefer a bit more resistance, the A-Pro is a superb choice.

M-Audio Axiom. This is a nice hybrid of synth- and piano-style keys. The keys themselves look like those on a piano: they aren't hollowed out underneath, there's a lip on the white keys, and the black keys are textured. I found the Axiom the most expressive for playing piano and Rhodes. The keys aren't fully weighted, nor hammer-action, nor graded, so don't confuse this with a stage piano action. But because of this, they're just as at home playing synths, wipes, and organs as they are virtual Steinways.

Novation Nocturn. Novation has chosen the made-in-Italy Fatar synth keybed. It's the lightest feel of the four, but also remarkably consistent. I could comfortably manage a broad range of dynamics on my favorite virtual piano, Modartt Pianoteq. For synth or organ sounds, the action is ideal. *Keyboard* executive editor Stephen Fortner added, "I find the Nocturn action the most 'expensive' feeling of these four, which is significant given that the street price is $100 lower than the Cakewalk or the M-Audio. The horizontal plane of the keys is nice and even, the key return is crisp, and side-to-side wobble is negligible."

Pads and Controllers

Each keyboard is in some sense an integrated control surface. Even the slim Behringer has programmable knobs and buttons, and the other three add drum pads and DAW transport controls. The M-Audio and Cakewalk also have sliders, so if you want organ drawbars or mixer faders, you can narrow your choices to those two.

Behringer UMX. The Behringer has the fewest controls, but it may be all you need for most applications. There are eight 270-degree, rubber-tipped knobs. They feel solid enough, although the pots don't sit absolutely secure in the holes, meaning they often appear off-center and wiggle as you use them. There are also eight buttons and a fader with a satisfyingly long throw, all assignable. Pitchbend and modulation are on separate wheels. They do the job, but the mod wheel feels loose while the pitch wheel feels extra-resistant, and at the extremes the notches disappear slightly into the casing.

This certainly feels like the entry level, but it's also the easiest to program. One-key shortcuts reassign controls to the most common uses, and all kinds of MIDI functions are accessible or programmable with at most two button presses. The same can't be said of any other model here, so there's a clear win for simplicity.

Cakewalk A-Pro. Cakewalk's controller is an obvious Edirol descendant, but with added refinement. The knobs look and feel terrific, with 270-degree (not endless) rotation. Unique to the A-Pros, you get buttons dedicated to splits and layers. You also get separate octave-shift and transpose buttons. Even if you can transpose in your software, that's a nice convenience. A small but clear LCD screen gives feedback on your playing velocity, and makes it much easier to program CCs and access just about any function on the A-Pro than it was on previous, Edirol-branded keyboards. This is a major usability improvement.

This is Cakewalk "by Roland," so separate pitch and mod wheels

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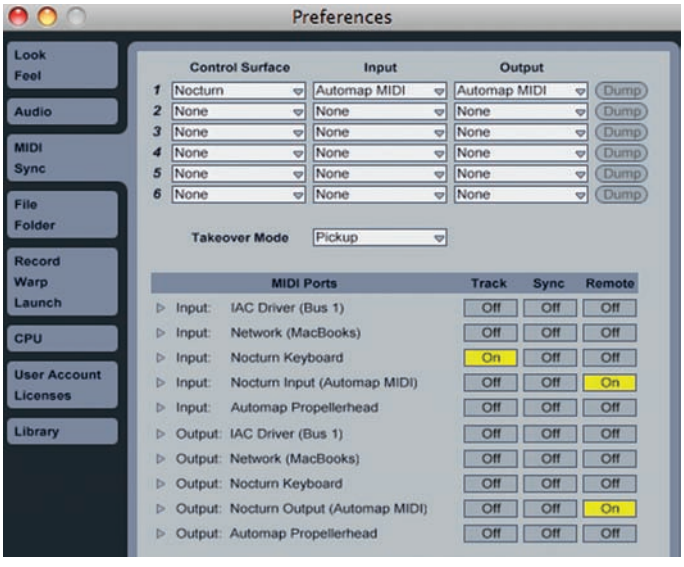
Automap explained in our review of the Novation SL MK. II.

Our review of the M-Audio Axiom's big brother, the Axiom Pro.

Craig Anderton on using Cakewalk's ACT.



In order to use automatic mapping with any host and keyboard, you need to configure ports, as seen here with Ableton Live and the Novation Nocturn.

give way to Roland's signature paddle. In my experience, it's more desirable for quick vibrato and expression, but less so for other forms of modulation.

Instead of the larger pads on the Axiom and Nocturn, you get eight tightly-packed, smaller buttons. Initially, velocity response wasn't as finely tuned as the others: It was difficult to get a wide dynamic range, and too easy to get multiple triggers at lighter velocities. However, several velocity sensitivity settings help calibrate the pads to your finger-drumming style.

M-Audio Axiom. The Axiom offers the most controls. There are nine assignable buttons beneath the nine sliders, eight endless encoders, transport buttons, and eight drum pads, and both the pads and encoders have Group buttons. The endless knobs are staggered in two rows, so it's easier to keep track of what controls what. There's also a large, bright LCD screen, tilted forward slightly for easy viewing. The layout should be familiar from previous Axioms, but the appearance has been refined, the faders have nicer-feeling caps and greater clearance, and I doubt anyone will miss the numeric keypad from the previous version.

Texture on the buttons, encoders, and wheels give the Axiom a luxurious feel. These are also my favorite pads of the group. They protrude further from the case and are larger, making Akai MPC fans feel at home,

ableton

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AVID
M-Audio Axiom

BEHRINGER
U-Control UMX

CAKEWALK
BY ROLAND
A-Pro

NOVATION
Nocturn Keyboard

Sizes (49-key tested)	25, 49, and 61.	25, 49, and 61.	32, 49, and 61.	25 and 49.
Keyboard type; maker	Semi-weighted, piano-shaped keys; custom.	Semi-weighted; custom.	Semi-weighted; Roland.	Synth action; Fatar.
Aftertouch	Yes.	No.	Yes.	Yes.
Assignable hardware controls	9 faders, 9 buttons, 8 endless encoders, transport controls, pitch and mod wheels.	8 270-degree knobs, 8 buttons, 1 fader, pitch and mod wheels.	9 faders, 12 buttons (assignable depending on mode), 9 270-degree knobs, transport controls, pitch/mod paddle.	8 endless encoders with LED rings, 8 buttons, Speed Dial, pitch and mod wheels.
Drum pads	8, velocity-sensitive.	None.	8 compact, velocity-sensitive.	8, velocity-sensitve.
Display	Large blue backlit LCD.	None.	16 x 2 orange backlit LCD.	None.
Pedal inputs	Expression, sustain.	Sustain	Expression, sustain.	Expression, sustain.
Connectivity	USB, MIDI in, MIDI out.	USB, MIDI out.	USB, MIDI in, MIDI out.	USB.
Power supply	USB, AC*.	USB, 3 AA batteries, AC*.	USB, AC*.	USB.
Weight	10.6 lbs.	8.6 lbs.	8.4 lbs.	8.38 lbs.
List price	$439.95	$327.99	$399	$379.95
Approx. street price	$350	$164	$350	$250
Website	m-audio.com	behringer.com	cakewalk.com	novationmusic.com

*AC adapter purchased separately.

and they maintain consistent velocity response, even around the edges.

Novation Nocturn. Novation has the cleanest, most spacious layout, covering transport, endless encoders, group and function controls, and triggers. Buttons are large and have a nice rubbery feel. You don't get faders, and instead of an LCD, you're meant to look at the Automap "heads-up display" (HUD) on your computer screen—more on this in "Automatic Mapping" below. However, nothing else in this roundup gives you 12-segment LED rings around the knobs, which are terrific in that they show you the endless knob positions at a glance.

Unique to Novation and found on nearly all its controllers is the "Speed Dial," which edits whichever parameter you hover your mouse over. It lacks the LED ring, but adds detents for tactile feedback. "Once I'd worked with the Speed Dial a bit, I wondered how I ever got along without it," says editor Stephen Fortner. "It's not just for virtual knobs, either. You can scroll through a patch list onscreen and select a sound without touching your mouse. That alone saves me all kinds of time." Also found only on the Novation are touch-sensitive encoders—meaning, they're sensitive to skin contact, so you can tap an endless knob and see what it does in the HUD without having to move it and thereby affect some aspect of your sound.

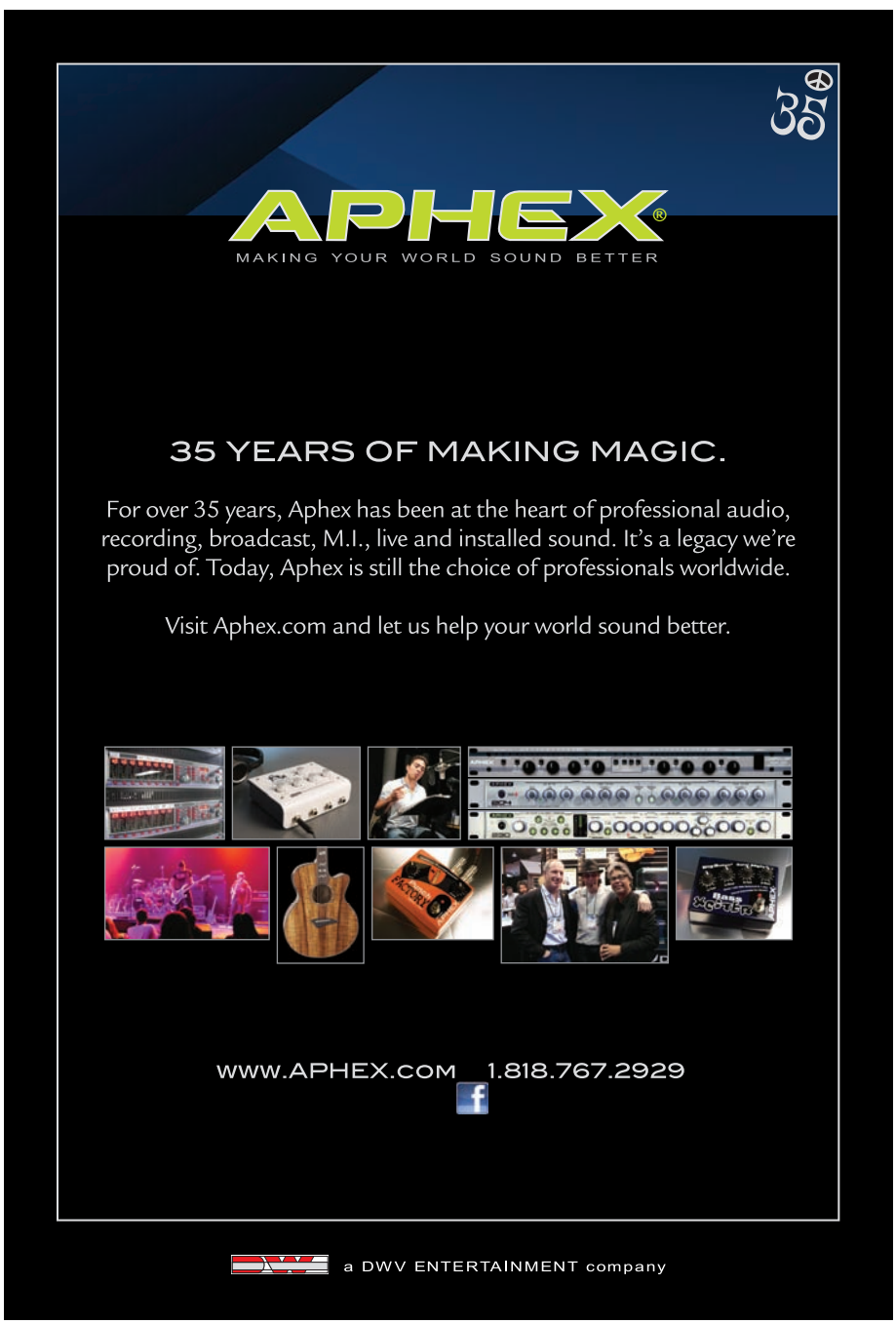
The drum pads are smaller than the Axiom's, and further recessed into the casing, but they're just as responsive and fun to play. The transport keys also have a lock button so you don't accidentally start, stop, or rewind your DAW while performing.

Automatic Mapping

For all their recent bells and whistles, controller keyboards do what they've always done: They send MIDI data. If you move a control, it sends a continuous control (CC) message and a value. Since MIDI has no standard for which physical knob should do what, and since there are often more parameters in a soft synth or DAW than there are data types in MIDI, the mapping of something like "CC44" is somewhat arbitrary. The usual solution has been to set up the mapping you want manually. You can do that from the hardware side by storing a template that sends the messages you need, or by using your software's MIDI learn function to say, "I moved knob 2, so assign it to the Funkiness parameter I just clicked."

The problem with fixed templates is that if you switch from, say one soft synth to another in

The A-Pro control panel appears inside Sonar on Windows, letting you edit onboard settings from within the DAW.



your host, you'll have to set up new mappings. This is why three of these keyboards—led by a concept introduced by Novation—offer automatic mapping that follows whichever plug-in or window has your focus and remaps controls on the fly. Novation has Automap, Cakewalk has Active Controller Technology (based on ACT in Sonar), and M-Audio has DirectLink, available on the Axiom and Oxygen lines, and derived from the more full-featured HyperControl in the Axiom Pro (reviewed Dec. '09).

Cakewalk ACT. Setting up ACT to control plug-ins in Sonar from the A-Pro keyboard involved the most steps. Even though Cakewalk makes both host and keyboard, I had to install a driver and add a controller plug-in—Cakewalk says this plug-in support will be pre-installed with all their DAWs from now on. There are ACT buttons on different toolbars, ACT enable and disable switches on the keyboard and software that can operate independently, and a separate ACT learn mode for reassigning controls, plus a parameters view that floats atop the other windows. It's all quite powerful once set up, though, and the A-Pro is most certainly the way to go if Sonar is your host.

M-Audio DirectLink. This one was easiest for me to set up. You don't install additional software, it supports a reasonable range of hosts (not just Avid's own Pro Tools), and there are clear keys for switching between DAW mixer and plug-in modes. It's also easy to see what you're doing on the Axiom's large screen. As on the Cakewalk A-Pro, the trigger pads double as shortcuts to different control layouts for the encoders. Under the hood, DirectLink speaks MIDI, not automation, and thus lacks Automap's broad plug-in compatibility (see below). Also, some of the mappings feel spotty, depending on your host—for example, you may switch to modes where the buttons below the faders don't do anything at all. DirectLink also has "Instrument Mode," which I found extremely useful. In this mode, key synth settings (say, filter cutoff) are always in the

	AVID M-Audio Axiom	BEHRINGER U-Control UMX	CAKEWALK BY ROLAND A-Pro	NOVATION Nocturn Keyboard
Automatic mapping	DirectLink.	None.	Active Controller Technology.	Automap.
Hosts supported for automatic mapping	Cubase, Live, Logic, Pro Tools (LE and M-Powered), Reason.	Not applicable.	Cakewalk Sonar (full ACT support), Live, Reason/Record.	Cubase, Digital Performer, Live, Logic, Nuendo, Pro Tools, Reaper, Reason/ Record, Tracktion, plus most VST, AU, RTAS, and TDM plug-ins.
Hardware splits/layers	4 zones, fully adjustable.	None.	2 zones, adjustable split point.	None.
User preset storage	20 preset banks, saved to/loaded from computer.	1 user bank, 1 factory bank; snapshot send and receive.	1 Control Map bank saved to/loaded from computer.	None.
Editor software	Enigma (discontinued).	None.	A-Pro Editor.	Automap Pro (included).
Included host	Ableton Live Lite (Mac, Win).	EnergyXT Compact (Mac, Win, Linux).	Sonar 8.5 LE (Win).	None.
Included instruments and effects	None.	NI Kore Player with 300MB sound library (Mac, Win).	Cakewalk Sound Center, Rapture LE, Studio Instruments Drums (Mac, Win).	Novation FX Suite, Bass Station, V-Station.
Drivers/ OS support	No drivers needed (Mac, Win, Linux, 32/64-bit).	No drivers needed (Mac, Win, Linux, 32/64-bit).	Win XP SP2 or later, Mac OS 10.4 or later; 64-bit Win7/ Vista support.	No drivers needed (Mac, Win, Linux, 64-bit support on Windows only).

Once configured, the Nocturn's encoders automatically map to the active device–particularly useful when you've consolidated instruments or effects into an Ableton Live rack, which likewise has eight macros.

same place regardless of soft synth, and the layout focuses on playing, rather than controlling the DAW.

Novation Automap. Novation's method came first, and in terms of both its internal plumbing and the sheer amount of software it works with, it's the most advanced. When you first set it up, an extra piece of software called Automap Server "wraps" all your plug-ins. The wrapped versions think they're getting automation orders from your host every time you grab a control, and any setting the plug-in makes available to the host for automation shows up in the heads-up display, an onscreen mirror of your Novation hardware controls. Some players may not like having to look at their computer screen instead of the keyboard itself to see where a controller is mapped; on the other hand, with Automap's semi-transparent display floating next to the DAW and synth windows you look at anyway, all the information is right in one place.

Since all major DAWs—plus most VST, AU, RTAS, and TDM plug-ins—speak automation, the well of stuff that works with Automap is virtually bottomless. Combined with the LED rings and skin-sensitive encoders, this makes for a nice fusion of software and hardware.

General observations. Automatic mapping sounds great in theory, and in practice, it has gotten smoother by leaps and bounds compared to just a couple of years ago. However, it still requires a lot of different elements to work in concert, and across a number of hosts and apps. In other words, it can be either a boon or a pain. Sometimes, getting the host and keyboard to handshake and use the automatic feature on can require a number of steps and reading documentation for keyboard, host, and plug-ins. I suggest that once the keyboard you choose is connected, you set an egg timer for 15 minutes. If you haven't gotten at least one encoder doing what you expect when the timer goes off, consider whether to use the automatic mode or the more traditional MIDI controller mode—to which all four keyboards can revert if you wish.

Let's be fair, though. Whether or not I had a smooth experience getting mapping running had as much to do with the host as the keyboard itself. Propellerhead Reason and Record passed with flying colors with all three keyboards. I set them up without messing with port settings or reading docs, and parameter names and mappings were

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intuitive. The Axiom worked especially well with Reason; dedicated buttons let me switch tracks, and it immediately felt as if the Axiom and Reason were one.

Ableton has added useful tutorials for control layouts in Live 8.1.x and 8.2, but some of the instructions haven't kept pace with recent hardware, and often, basic control layouts for mixing functions or racks didn't take, sending me back to the port setup to try to work out which combination to use. Novation had an ace in the hole here—the Automap heads-up display has an icon that brings up DAW Setup instructions. Once there, I got things working.

More than from a particular host like Sonar or Live, some of the challenges here are endemic to the ambitious goal at hand. All three keyboards are set up to run DAW mixing, effects, record-arming, transport, editing, synth programming, and many other things, all at once from your keyboard. That much can begin to make you feel like you're using a keyboard to land a 747. On the upside, that means you can, well, use a keyboard to land a 747. Both the Nocturn and Axiom work quite well with Pro Tools, Logic, and Cubase—not just Reason and Live—and editor-at-large (and controller freak) Craig Anderton offers some counterpoint to my egg-timer advice: "If you get any keyboard with control surface functions, spend two weeks forcing yourself to touch your mouse and QWERTY keyboard as little as possible. You'll realize that the time invested in the learning curve pays off in terms of being able to fly around your DAW."

Hardware Integration

While the primary purpose of these keyboards may be controlling software, they don't shirk on hardware MIDI features. The Nocturn is the only keyboard that lacks a conventional MIDI out, meaning all others can operate as standalone MIDI controllers or as MIDI interfaces for a computer. They can also work without the automatic features. Even the USB-only Nocturn functions without Automap, thanks to a logical, thoughtful set of MIDI mappings for each control. The A-Pro will work with Sonar minus ACT as well.

Both Cakewalk and M-Audio let you assign any controller or channel you like to anything onboard, and edit controller curves for the pads and keys. Sure, software instruments often have their own controller curves, but if there's a curve you like best for the keyboard itself, it's often easier to "set it and forget it" on the hardware than dig into settings for multiple soft synths.

For hardware zones, the Axiom leads the pack with four for splits and/or layers; Cakewalk is second with a simple keyboard split. Plug in an AC adapter, and you could even use the A-Pro or Axiom without a computer. Both have MIDI in and out ports, and Cakewalk's A-Pro supports MIDI merge via a dedicated switch.

The Behringer UMX is a single-zone affair, but as a result of this simplicity, you can read every editing option right off the keyboard casing—no manual required. Easy access to different parameters means it's a handy keyboard to have around for programming MIDI hardware. Unfortunately, it's hobbled in its ability to store any presets you create: user storage is just one slot in addition to the one factory slot.

Note that a lack of hardware splits and layers doesn't mean you can't split or layer at all. You just have to do it on the receiving end, either in your host software or your synth's MIDI receive parameters.

Setup and Bundles

Setup of all four keyboards is easy. The Behringer, M-Audio, and Novation keyboards are USB class-compliant, meaning you can plug into Mac OS X, recent Windows versions, and even Linux without installing any drivers. That makes them useful with netbooks and possibly future mobile tablets; they worked perfectly with my Ubuntu Linux box with Pianoteq, Renoise, Pd, and other tools.

Cakewalk requires drivers for the A-Pro, but those supplied for Windows and Mac work very well. Cakewalk also claims improved performance with its MIDI drivers, with lower latency and less jitter, via "Fast Processing Technology," which should exceed performance of the class-compliant keyboards. Still, it's too bad that this keyboard doesn't include a switch to revert to a class-compliant mode as some Cakewalk and Edirol devices have in the past.

There are also handy software bundles with each, though the Cakewalk A-Pro earns extra marks for its superb control editor software and copies of Sonar LE, Rapture LE, and Studio Instruments Drums—it's the most complete "studio bundle" of the group. The Nocturn ships with Novation's superb virtual analog instruments and effects, as well as the previously extra-cost Automap Pro, which adds support for multiple Novation devices (you could add a keyless Nocturn or SL Zero for more controls, for example) and drag-and-drop remapping in the heads-up display. Want that filter cutoff on a different knob than where Automap put it? Click, hold, drag, and the change is instantly reflected on the Nocturn hardware.

Hosts make a big difference. I found Reason's automatic support the most intuitive with *all* the keyboards, as seen here with the Automap heads-up display for the Nocturn.

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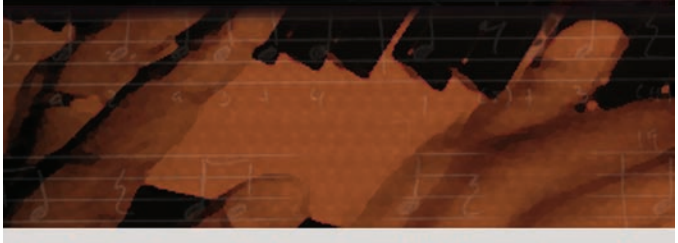

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Joe Perry, Publisher (signed)

Despite its low price, the Behringer is the only keyboard to include an *audio* interface, in the form of separate class-compliant USB hardware, with stereo RCA ins and outs as well as S/PDIF. You also get EnergyXT, a DAW you can run off a USB key on Mac, Windows, or Linux, plus Native Instruments' free Kore Player with 300MB of all-purpose sounds. (You can also download this free from NI, but it's nice that Behringer has done it for you.)

The Axiom, Nocturn, and A-Pro were each supported right out of the box in Propellerhead Reason and Record.

Conclusions

With street prices as low as $164, you'd imagine this would be a bland product category with lots of compromises. The surprise is, these are all four solid, high-quality keyboards with great feel and advanced features.

As the budget option, the Behringer UMX isn't bad at all—it's compact and has a great, high-resistance keybed. To outfit a netbook for mobile musicmaking, I'd go for the UMX, especially since you get EnergyXT and an audio interface in the deal.

Cakewalk's A-Pro is the best USB controller from Roland yet. If you want a high-quality Roland keybed, or if you're a Sonar user, it's a no-brainer. The new case also feels expensive, and overall the A-Pro is a close second to the M-Audio in feeling more expensive than it actually is.

For dynamic control of a *lot* of plug-ins, the Novation Nocturn is a great way to go. The light but responsive Fatar keybed is also terrific for playing synths. And while Novation's SL Mk. II (reviewed July '09) has more features, I prefer the Nocturn's roomier layout, conventional pitch and mod wheels, and larger, more playable pads.

M-Audio's Axiom 49 is a winner for several reasons: It looks great, its keyboard satisfies piano and synth use alike, and it has the most balanced complement of controllers. Automatic features don't require extra software, and DirectLink, while less sophisticated and broadly compatible than Automap, makes up for that with Instrument Mode. If you do things without automatic mapping, you don't give anything up, and the four-way zoning makes it the most logical choice if you augment your computer-based music rig with hardware synths. k

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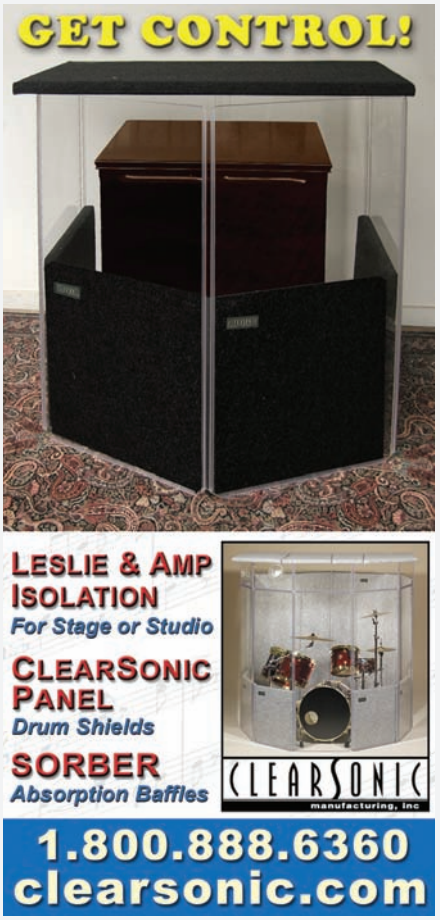

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ETHNO INSTRUMENT 2

by John Krogh

Like all good sequels, Ethno Instrument 2 promises more of everything that made the original (reviewed Sept. '07) a hit. For their follow-up, MOTU took an already feature-packed instrument and improved on the overall usability, adding capabilities such as better-sounding time stretching and the ability to search patches, which is a welcome addition, especially considering that the content has been expanded from 8GB to a whopping 21GB. So is everything in Ethno 2 bigger and better?

Content

Ethno 2 is a specialized software instrument that comprises a diverse and

impressively recorded set of sampled "world" instruments, loops, and phrases, all wrapped in a proprietary software workstation that provides a ton of flexibility for tweaking, massaging, rearranging, remixing, and re-contextualizing the existing sample content to fit into a wide range of musical applications.

The emphasis seems to be on the looped content, as there's now a staggering amount of phrases and loops to work with. Whether you're in the mood for klezmer wedding band, kilt-approved Celt riffs, hypnotic African dance grooves, saucy Spanish flamenco flavors, vibe-inducing Indian beds, tranquil Asian soundscapes, or any otherworldly ethno-organic combination, Ethno 2 delivers the goods. The wealth of new multisampled instruments represents a giant leap from version 1—just one example is that Taiko drums are on board, which were absent in version 1.

I do wish MOTU had gone the extra mile to organize this deep rabbit-hole of excellent material into construction kits. If all you want is an accent from some other continent, it's easy to dive into the browser and search by geographic region, or use the new-and-improved search to find loops or instruments that match your criteria. Looking for balalaika? No problem. However, there's so much *within* each category (Africa, Asia, Australia, Celtic, Eastern Europe, and the list goes on) that I found it difficult to assemble related material quickly that would work together nicely, *e.g.*, complimentary grooves, rhythm parts, and melodic passages. If you're going for authentic music performed by a full ensemble, complete with rhythms, melodies, and harmonic parts, expect to do a fair amount of trial-and-error patch loading before landing on what you're after. It would have been nice if multis were provided that comprised a bunch of related loops in a particular style.

Musical Tools

One of Ethno 2's unique selling points is that unlike most other "ethnic" collections, which are typically packaged to work inside of another soft sampler or player, E2 gives you not only great raw content, but a custom virtual instrument packed with tools to manipulate the content in a variety of musically useful ways.

By default, looped material automatically beat-maps to your host sequencer's tempo; you can create longer phrases by triggering different loops from your MIDI keyboard, or if you prefer working with audio, samples can be dragged-and-dropped in audio file format directly from Ethno 2's interface into your host. Time compression/expansion is applied automatically. For even more flexibility, you can have E2 slice its loops into discrete elements *a la* ReCycle. When you go this route, E2 creates a MIDI file for each loop; you can then drag-and-drop those files into your host, rearranging the MIDI notes and rhythms to suit your needs, or playing slices from a keyboard in real time.

When I reviewed the first version, I cited a lack of dynamics with some of the instruments, due to the presets having very few velocity-switched layers. Some of these instruments still remain. However, this time out MOTU has provided more articulations and more velocity-switched layers for many of the instruments, making it possible to coax a higher level of dynamics and expression from these samples. What's more, using Expert mode, you can create layered presets that let you define velocity ranges, keymap zones, and even keyswitches to individual patches within a multi (a combination of multiple patches). By exploiting Expert mode, I programmed presets that let me achieve the kind of realism you'd expect from an exhaustively sampled instrument. Nice.

Other sonic sculpting tools include a high-quality convolution reverb that boasts a nice set of hall, room, cathedral, and "extreme" impulse responses, a multimode filter (per part), three-band EQ, and an LFO that can be set up to simulate natural vibrato, tremolo, and timbral change. There are even microtonal tuning scales to achieve non-western tuning with any instrument. If you know your world instruments, these will facilitate historical and regional accuracy in your productions.

Specifications

PROS Massive amount of loops and phrases. Built-in controls make it easy to rework existing content to fit a wide range of musical applications. High-quality EQ and convolution reverb included. Low CPU load.

CONS Some legacy instruments from version 1 have only one or two velocity-switched layers, making them less dynamic.

CONCEPT World instrument sample collection wrapped in a specialized virtual instrument based on UVI's latest technology.
FORMATS Mac or PC. AU, VST, RTAS, and standalone.
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PRICE **List: $395**
Approx. street: $375

motu.com

Conclusions

Ethno 2 puts a staggering amount of world instruments, loops, and phrases at your fingertips at a budget-friendly price. With the original Ethno, the bang-for-buck factor was high. With Ethno 2 it's through the roof. But more importantly, the content is highly usable and flexible, the collection is rich with inspiring and widely applicable loops and phrases, and it's packaged in a software instrument that lets you stretch these sounds into all manner of authentic and hybrid musical contexts. If you're in the market for a world/ethnic sample collection, Ethno 2 should be at the top of your list. With a Key Buy award, it's sure at the top of ours. k

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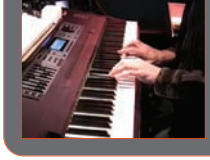

All Ethno 2 demo videos in one player.

John Krogh's expanded web review with video on micro-tonal scales.

Waves
JACK JOSEPH PUIG ARTIST SIGNATURE

by Craig Anderton

Some plug-ins are designed for precision, some for "character"—but the Waves Artist Signature series plug-ins are about *style*. They involve much more than getting a "famous producer" sound, as they're a toolkit for working within that producer's musical genre. For example, the Tony Maserati bundle is great for hip-hop, whereas Eddie Kramer's excels at rock.

But Jack Joseph Puig is all over the map, working with a variety of artists and genres—and his collection reflects that. As with other Artist plug-ins, the premise is to offer a set of functional processing blocks—channel strips, if you will—for specific applications, comprised of multiple functions that would normally be individual plug-ins. This lets

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newbies get right to work out of the box, while saving veterans time. The JJP collection offers blocks for guitar, vocals, drums, bass, cymbals/percussion, and strings/keys.

Strings & Keys

Since this is *Keyboard*, let's start with the Strings & Keys plug-in, with buttons for Synth, Hi Strings, Lo Strings, and Piano. The left side has the basics—a Sensitivity control to optimize levels, Low and Hi EQ, and Compression. This alone can give your sound more authority. The right side has a Master output fader and metering. The five faders in the middle, each with an enable/bypass button, control five parallel paths. The Main path is simply the dry signal, but because you can disable it, you can use the plug-in on a bus, not just as an insert.

The Space fader adds ambience that sounds like early reflections; Double gives a double-tracking effect, with a hint of chorus. Presence sounds like a compressed treble boost, while Girth provides a similar function for the low end.

One aspect I can't stress enough is that subtlety serves you well. For example, having the Doubler signals peak at no more than –20dB compared to the Main signal gave a gorgeous, but not "effected," fullness. Presence is also easy to overdo; when peaking at around –22dB, it gave a sweet kind of bite but was annoying much above –18dB. Also, these faders are like macros—for most of them, multiple parameter changes are going on under the hood.

Don't take the mode buttons too literally. Hi Strings sounds fabulous on choirs—I much preferred it for this purpose to the Vocals processor, which is for solo vocals.

Other Plug-ins

Each plug-in merits a detailed analysis, but given space constraints, we'll hit the highlights.

Vocals has tone, compression, and a de-esser as the "basics." Compared to the Strings & Keys plug-in, the Space fader is more about tightly panned delays, with longer, spacier background delays. The enigmatically-named Magic fader provides an effect similar to Presence in the Strings & Keys plug-in, while the Presence control in Vocals is more like an upper midrange boost. Attitude sounds muffled by itself, but a little bit ups the fullness.

Bass includes transient shaping with Attack and Length controls. This was one of the few plug-ins where you could use just the six effects faders, with no Main, to get your sound. There are buttons for DI, Amp, and Synth bass; however, Amp is about cabinet simulation, not overdrive.

Drums is designed for individual drums, with tabs for two types of kick miking, snare top, snare bottom, and toms. This also has some transient shaping; the snare and tom options can dial in reverb. A separate plug-in, Cymbals & Percussion, handles the rest of the kit. This has tabs for hi-hat, overhead cymbals, room cymbals, tambourine, shaker, and loops.

Guitars has seven processors and four tabs—Clean, Rock, R&B, and Chug. This plug-in seems mostly about tone, although there is doubling and reverb for ambience, and an Attack for transient shaping.

Specifications

PROS Goes beyond just emulating Puig's sound. Macro-like faders control multiple parameters. Easy to learn and use for newbies, saves time for veterans.

CONS Can only buy plug-ins as a package, not *à la carte*.

CONCEPT Six processors for specific instruments, designed in conjunction with renowned engineer Jack Joseph Puig.
FORMATS Mac or PC; AU, VST, RTAS, AudioSuite.
MINIMUM SYSTEM REQUIREMENTS *Mac:* OS 10.4.11-10.6.2, Dual G5 2GHz, Intel Core Duo 1.83GHz, 1GB RAM. *PC:* XP SP2 or SP3, 1GB RAM; Vista or 7 32-bit SP1, 2GB RAM; Intel P4 2.8GHz/AMD Athlon 64. See wavesupport.net for full info.

PRICE **List: $830**
Street: See "Conclusions."

waves.com

Conclusions

There's no single element in these plug-ins I haven't heard before, but that's not the point: Waves' Jack Joseph Puig Artist Signature is a carefully-crafted suite of processors, controlled as macros by faders, and it takes the tedium out of using plug-insto get a sound.

When I first saw the price, I thought "no way." There's a difference between price and value, though: You're not just getting six plug-ins, but source-optimized plug-ins *within* each plug-in. And while you may wish you could expose some of the under-the-hood settings, again, that's not the point. It's tough to describe just how different these are from the norm, but fortunately, there's a seven-day demo so you can judge for yourself. [*Editor's note: Check retailers for deep discounts. Sweetwater.com, for example, was selling a download version of the entire Puig package for $373.50 at press time.*]

As an inveterate tweakhead, I have no problem creating plug-in chains to get the sound I want—eventually! But the speed and efficiency of having all these processors assembled into logical combinations is stellar, and more importantly, so is the sound. k

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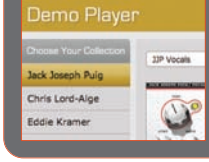

Audio demos of the various Artist Signature plug-ins.

A personal note from Jack Joseph Puig about this project.

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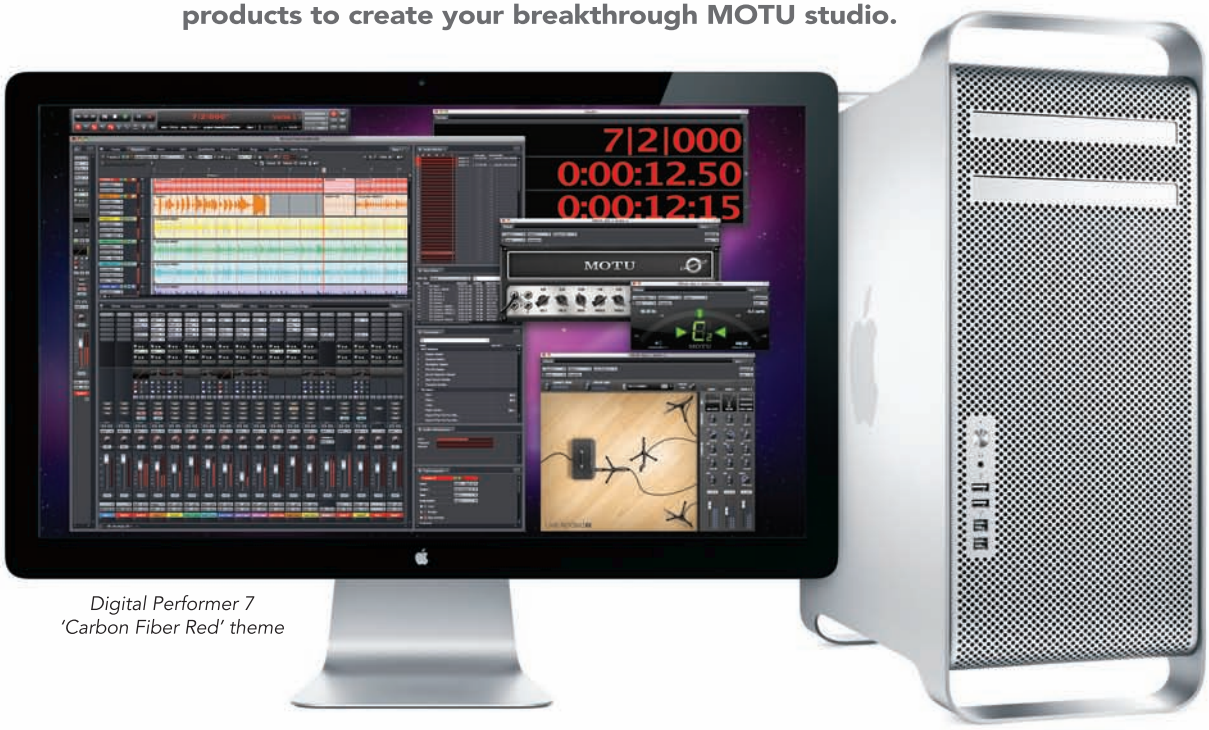

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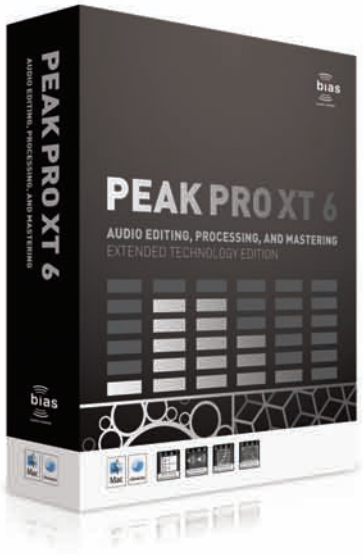

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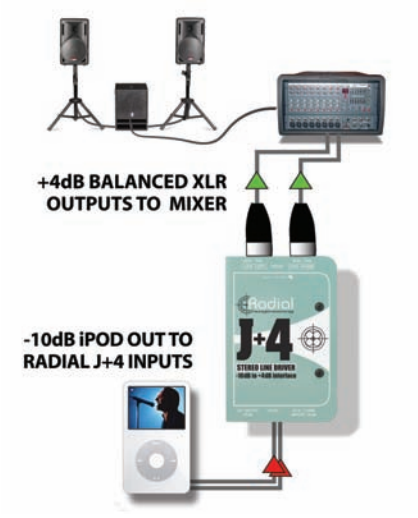

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T. LAVITZ of the DIXIE DREGS

by Stephen Fortner

Above: T. in our Nov. '92 story on the Dregs reunion. Atop his Hammond is a Korg SG-1 stage piano; in the background is an Ensoniq VFX-SD.

T.'s Dixie Dregs rig in 1980, clockwise from left: Conn StroboTuner and Oberheim OB-X atop Rhodes Suitcase with Dyno-My-Piano EQ, Echoplex tape delay and Sequential Prophet-5 atop Yamaha CP70 electric grand, Biamp mixer, Oberheim OB-1 atop Crumar T1B organ.

The blazing keysmanship of T. Lavitz, who passed away on October 7 of this year, never failed to blow our minds. Nor yours—in our readers' poll, you voted him "Best New Talent" of 1981 and "Jazz Keyboardist of the Year" in 1994. Though he'll always be best known by the high-powered rock/country/funk fusion of the Dixie Dregs, he also played with Jefferson Starship and Widespread Panic, and released several solo albums. In recent years, his passion for education found a home at Berklee College of Music, where he did a recurring summer residency as Artistic Director of the Rock Workshop.

Of his 1980 setup he said, "I think [the Prophet-5] is great for solo lines. . . . I use the OB-1 for solos when I want to face the violin player, Allen Sloan, so we can play melodies together or trade licks. The organ I use right now is a Crumar T1B. . . . I'd feel guilty coming in every day to a Hammond and a grand, knowing [the crew] would be there holding their aching backs."

The 1992 Dregs reunion, which sought to rescue real fusion from its descent into smooth jazz, saw the return of the Hammond B-3, which T. called "irreplaceable." So is his playing—check out classic Dregs albums like *Dregs of the Earth* and *Industry Standard*, as well as T.'s just-released instructional DVD *The Key*. We'd say "rest in peace," but in T.'s case, the more fitting farewell is, "Rock on!" k

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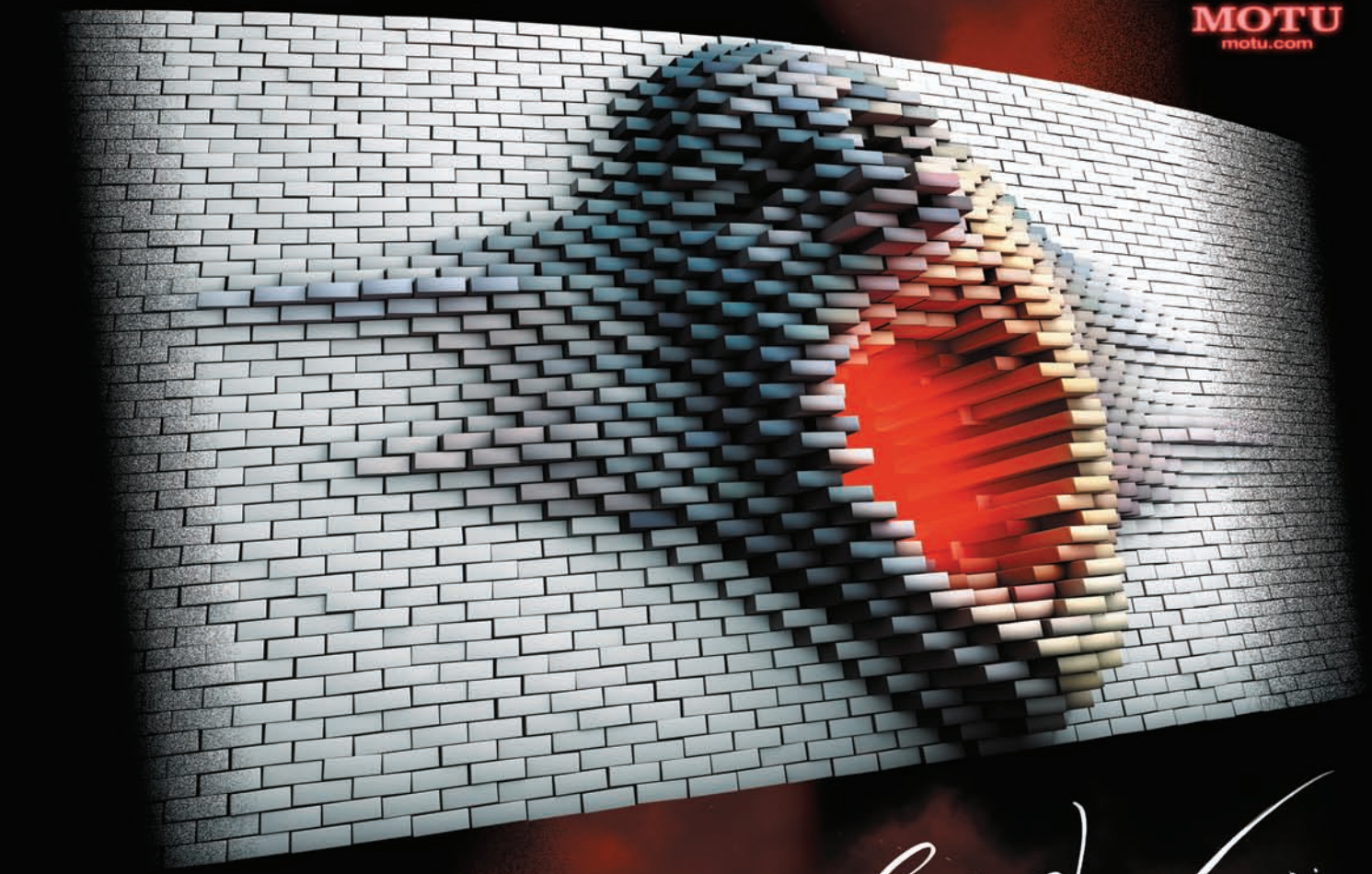

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